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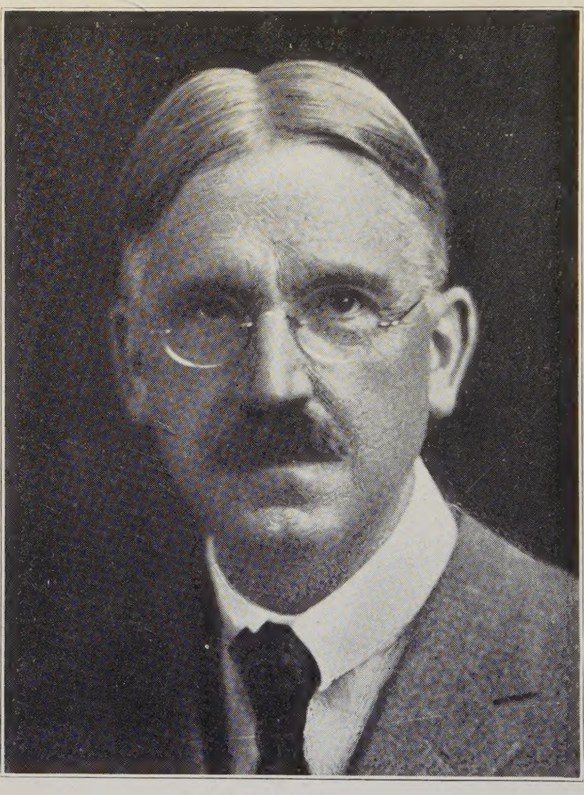

JOHN DEWEY

John Dewey is one of the world's noted thinkers. He is the foremost American interpreter, in terms of the school, of the vast social and industrial changes which have marked the present century. Better than anyone else he has thought out and stated a new educational philosophy suited to the changed and changing conditions of human living.

AN INTRODUCTION
TO
EDUCATION

BY

GEORGE WILLARD FRASIER
PRESIDENT OF COLORADO STATE TEACHERS COLLEGE

AND

WINFIELD D. ARMENTROUT
PROFESSOR OF EDUCATION
DIRECTOR OF TRAINING SCHOOLS
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DEDICATED

TO

SOME OF THE DISTINGUISHED TEACHERS
WITH WHOM WE HAVE STUDIED

John Dewey
Edward L. Thorndike
Elwood P. Cubberley
Frank M. McMurry
Lewis M. Terman
George D. Strayer
William H. Kilpatrick
Boyd H. Bode

Paul V. Keat

PREFACE

The school is a social institution, whose function is to bridge the gap between the child and society. Hence, the professional preparation of teachers must involve a study of at least four predominant factors in education: the teacher, the child, the subject-matter, and society.

The purpose of this book is to introduce the pre-service teacher and the unprepared in-service teacher to the problems of education, and to meet the needs of an introductory course to the study of education, which is required of practically all students entering teacher-training institutions. The text is in the nature of a survey course in the field of education. It aims to do for the student what the survey courses in literature and the general science courses do for students in those fields. Through a study such as this text offers, the student becomes acquainted with the various theories current in the field of education, the major problems to be solved, present-day practices and systems, and the history of modern education. Thus he is enabled to get a certain perspective, a point of view, which will render him much more intelligent toward the more detailed studies to be taken up as he continues his training.

Furthermore, this text not only introduces the student to the vast field of education, but, by means of the bibliographies following the chapters, it makes possible more intensive investigation of the subjects but briefly discussed in the text. At Colorado State Teachers College this course is described in the yearbook as follows:

> Ed. 1. An Introduction to the Study of Education—Required of all first year students.
>
> This course aims to introduce the student to the study of education. It aims to do for education what general science does for the later study of specialized subjects in science. The course deals with teaching as a profession, the child as an object of study, the curriculum, the necessity for good methods, the public school organization, educators of the past and present, and many other major problems that are met in the field of education. The purpose of the course is to orient the student in the great field of education and prepare him for the specialized study to come later.

In preparing this book the authors have kept constantly in mind the lack of perspective and experience which characterizes the pre-service teacher, and the in-service teacher who lacks professional background. They have attempted to express the thought simply and concretely for beginning students in teacher-training colleges and for groups of teachers working together in reading circles and study groups.

Having specially in mind the needs of the instructor in assigning supplementary reading, of the student who may desire further independent reading, and of those individuals and groups who may be carrying on study by themselves, the authors have presented at the end of chapters a full bibliography of books relative to subjects discussed in each chapter. Specific chapters with specific titles indicating the material included are listed as an aid in directing the student to the particular material which he may desire. The questions and problems following the chapters are of such nature as to bring out the important principles discussed.

The chapters have been grouped into natural units. The first three chapters, which make up Part One, concern the teacher. Part Two deals with the child; Part Three with the teaching process; Part Four with the organization of the school and the curriculum; and Part Five with democracy and the public schools. The instructor will find these units of work valuable in laying out his plans, reviewing after study, and giving examinations. Each part closes with a brief summary of the material discussed, aimed to emphasize the important points brought out and to serve as a transition to the next part.

The pictures included in the book are of living educators. This is contrary to usual custom. However, the authors wish the beginning student to know about some of the men who are making educational history today.

A set of true-false examination questions has been worked out for use with the book. These questions will be sent to any instructor who is using the book as a class text, and may be secured for student use at moderate cost.

The authors make no claim for originality in much of the material presented, as the very nature of the book makes it impossible. They are under obligation to many sources and individuals for a large part of the material, and to these they have given proper acknowledgment. For much of the point of view they are indebted to those eminent teachers whose names appear on the dedicatory page.

This book has been taught in manuscript form to 650 Teachers College freshmen by six different teachers. The authors are under obligation to these teachers for many valuable suggestions incorporated in the book. These teachers are: Helen C. Davis, Sonora T. Metsker, Roger Q. Mitchell, Clark M. Frasier, Earle U. Rugg, and W. H. Hargrove.

We are also indebted to Dr. E. L. Thorndike for permission to use material from his books, and to The Macmillan Company, Houghton Mifflin Company, and Charles Scribner's Sons for the use of copyrighted material from various of their texts.

George Willard Frasier
Winfield D. Armentrout

Greeley, Colorado
June 1, 1924

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PART ONE

THE TEACHER

Individual Efficiency in Teaching
The Teacher's Philosophy
of Education
The School and the Community

CHAPTER I

INDIVIDUAL EFFICIENCY IN TEACHING

THE TEACHER—THE CHILDREN'S GUIDE

The teacher may be compared to a guide accompanying tourists through new and strange lands, for the teacher guides children through such new and strange lands as arithmetic, history, geography, literature.

The usefulness of a guide to tourists will depend upon his ability to select worth-while places or objects of interest and to describe and explain them in such a way as to bring out their true worth and significance. A guide may be merely of the type of the professional auto driver who takes a party of tourists on a three-day trip through the Rocky Mountain National Park. This kind of guide will be able to point out the important peaks, give the names of the peculiar rock formations, and tell something of the animal and plant life. The tourists who travel with him will doubtless have a certain knowledge of the points of interest, will be able to describe a few of the wild flowers, and perhaps give some facts about the animal life.

The same tourists might take a three-day trip through the same park with a naturalist of the ability of the late Enos Mills as a guide, or with a geologist who was eager to have people know and understand his mountains. Under such guidance the tourists would gain more than mere information: they would gain inspiration and lasting interest; they would leave eager to return and learn more of the place.

To the same extent that guides are of small or great value to the tourists, so are teachers of little or of real help to the children whose efforts they try to direct.

> The road to knowledge and truth is not always plain and easy. Children see no familiar landmarks, and it is easy for them to get lost and become discouraged. Confidence in their teacher and his ability to bring them out all right in the end is their strong support. But what if they see him constantly falter and blunder?[1]

One writer describes the teacher as:

> . . . a leader, an inspirer, a guide of children. He helps them to short-circuit their learning processes and perfect the methods of meeting their needs. He introduces them to new forms of experience that they might not hit upon by chance. He sees to it that in living fuller and richer lives, they are also becoming better equipped to play their part in the larger world of human interests and activities.[2]

No doubt we would all agree that:

> The most important element in education is the teacher. It is true that the right education requires a variety of subject-matter. It is likewise true that selection of subject-matter and reflection on method are not only useful but indispensable. But the teacher must breathe life into the dead bones, and it is the teacher's task to create and foster the spirit of open-minded inquiry, the attitude of sympathetic yet critical interest in all matters of human concern, which is the finest fruit of education.[3]

It is evident, then, that the task of the teacher is not an easy one. The job is no longer one for amateurs. What sort of people should be designated to perform this social function? What training should be required of them? What qualities should they possess?

---

[1] Colgrove, C. P., *The Teacher and the School*, page 18. Charles Scribner's Sons. Used by permission.

[2] Miller, I., *Education for the Needs of Life*, page 300. Reprinted by permission of The Macmillan Company, publishers.

[3] Bode, B. H., *Fundamentals of Education*, page 40. Reprinted by permission of The Macmillan Company, publishers.

What Pupils Think of Teachers

One source of information as to the qualities teachers should possess is to be found in pupils' answers to such questions as, "In thinking over the teachers who have been or still are most helpful to you, tell the qualities in them which make the strongest appeal to you."[1] In a study of 550 high-school boys and girls, the following qualities were emphasized: patience, willingness to help, kindness, clearness, firmness, sense of humor, cheerfulness and pleasantness, sincerity, sympathy, and ability to make work interesting. This study shows that from the viewpoint of pupils the personal and social qualities of the teacher assume a large proportion.

Another interesting insight into pupils' estimate of teachers is given in the following editorial taken from a high-school paper:

The Many Kinds of Teachers

One necessity of modern life, which comes in assorted colors, is the teacher. There are green teachers, yellow teachers, blue teachers, gray teachers, and white teachers. Green teachers are usually young and just out of school. They remember their own school days, the farewell to freedom for nine long months, and so are very sympathetic, but they also remember the stern old masters of their school days and so they often assume an attempted sternness. When ordering a teacher it is best not to order a green teacher unless one understands human nature and knows that beneath her pretended sternness she is really sympathetic.

Yellow teachers are afraid to displease anyone. They are easy to "bluff" and can be persuaded to give you any grade. Their classes can easily persuade them not to give long assignments and can convince them that tests are inadvisable. If you wish to bluff your way thru school, lay in a good supply of yellow teachers.

---

[1] Engleman, J. O., *A Survey of The Decatur* (Illinois) *High School*, page 23.

Blue teachers are the teachers who think the world a cruel place because they have to endure our charming company all day. They are eternally reminding us that we have six or seven teachers to prepare lessons for, while they have to inject knowledge into about 100 heads, dense or otherwise. We have no way to rid ourselves of this melancholy feeling and must therefore suffer in silence. When ordering, avoid blue teachers.

Next to blue teachers, gray teachers are the worst. They look upon every new student with suspicion. They seem to think we come to school just to cause them grief. Believing that "turn about is fair play," they cause all the trouble they can, even when we don't deserve it. Next to blue teachers, avoid the gray ones.

Last comes the teacher the whole school loves—the white teacher. She requires study, but is fair in everything. She understands the boys and girls she has to do with. She knows when to overlook an unprepared lesson, and yet one cannot "bluff" her. She understands the mischievousness and restlessness of a student and does not look upon it as meanness. She treats the pupil as a friend, not as some inferior being, into whom she is to batter, beat, and pound knowledge. If possible, when picking a teacher pick a white one. This is rather difficult because of the demand, but you will find almost every school is fortunate in having what the whole school loves—the white teacher.

—From *The Panther,* Delta, Colo.

WHAT SCHOOL MEN THINK OF TEACHERS

Several studies have been made to determine the essential characteristics and qualifications of a good teacher from the viewpoint of superintendents, supervisors, and principals. Most of these studies have been carried on by means of a questionnaire. One method is to discover the qualities of merit in teachers by making out a list of desirable characteristics and having school men in the various parts of the country rank these in order of importance. A similar method is used to discover the important causes of failures among teachers.

Ruediger and Strayer[1] used the following items in order to determine the qualities of merit in teachers:

1. Experience in years.
2. General teaching merit.
3. Health.
4. Personal appearance.
5. Initiative or originality.
6. Strength of personality.
7. Teaching skill; method.
8. Control, or ability to keep order.
9. Ability to carry out suggestions.
10. Accord between teacher and pupil.
11. Progressive scholarship or studiousness.
12. Social factor outside of school.

This list emphasizes five major factors: experience, health, professional training, scholarship, and personality. The social virtues do not appear to occupy as prominent a place as in the study made by Engleman on pupils' estimate of teachers.

By means of a questionnaire,[2] one writer attempted to discover the type of preparation needed on the part of teachers. He groups the replies under five general heads:

1. A better knowledge of subject-matter.
2. Advanced study in the science of teaching.
3. Experience in student teaching under close supervision.
4. More knowledge of pupils, more sympathy with them; knowing how to "teach pupils instead of subjects"; less specialization.
5. More "experience" with life; a richer personality; the culture that comes from travel and contact with people—especially with those outside the teaching profession.

This, then, list includes three of the major factors mentioned by Ruediger and Strayer—namely, scholarship, professional training, and personality.

---

[1] *Journal of Educational Psychology*, Vol. I, page 273.
[2] *Education*, Vol. XXXI, page 323.

WHY TEACHERS FAIL

Buellesfield[1] studied the causes of failures of teachers by means of a questionnaire sent to three hundred school men in various parts of the United States, especially to superintendents of city schools. One hundred twenty-five replies were received from that number of different school systems. The following table shows the results:

Causes of Failure	*Chief Cause*	*Contributory Cause*	*Total*
Weakness in discipline	114	54	168
Lack of judgment	54	86	140
Deficient in scholarship	42	40	82
Poor methods	41	79	120
Daily preparation insufficient	24	51	75
Lacked industry	19	28	47
Lacked sympathy	17	45	62
Too nervous	15	30	45
Deficient in social qualities	15	27	42
Unprofessional attitudes	14	28	42
Unattractive appearance	12	29	41
Poor health	12	13	25
Lack of culture and refinement	11	28	39
Uninterested in work of teaching	10	26	36
Too many outside interests	10	23	33
Immoral	10	1	11
Too frivolous	9	17	26
Disloyalty	9	16	25
Could not control temper	7	23	30
Deceitful	7	19	26
Untidy in dress	7	14	21
Remained too long	5	17	22
Too immature	3	13	16
Wrong religious views for that community	2	3	5
Attended questionable amusements	1	8	9
Keeping company with high-school boys	1	0	1
Use of tobacco	0	1	1

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[1] *Educational Administration and Supervision,* Vol. I, page 451.

This table also emphasizes the three major qualities found in the two studies above—namely; personality, scholarship, and professional training.

Miss Moses,[1] in her study, "Why High School Teachers Fail," gives us the following results:

Rank	*Cause of Failure*	*Number of Failures*	*Per Cent of Total*
1.	Poor instruction	43	20.97
2.	Weakness of personality	35	17.07
3.	Lack of interest in work	30	14.53
4.	Weakness in discipline	26	12.68
5.	Lack of sympathy	20	9.75
6.	Inability to coöperate	14	6.82
7.	Unprofessional attitude	12	5.85
8.	Weakness in knowledge of subject-matter.	12	5.85
9.	Disloyalty	7	3.41
10.	Immorality	4	1.95
11.	Poor health	2	0.97

This table lists weakness of discipline as fourth in order of importance, outranked by poor instruction, weakness of personality, and lack of interest.

In another report[2] on the study of causes of failure among elementary school teachers, we find "poor discipline" as the most important of ten causes of failure, judged from the frequency with which it was mentioned by superintendents in answer to the questionnaire. The ability to discipline is perhaps the most emphasized characteristic of a teacher. Ruediger and Strayer, in the study cited above, found the highest relation was between teaching skill and the ability to keep order. Buellesfield lists weakness in discipline as the chief cause of failure; and lack of judgment, deficient scholarship, and poor methods, in the order named. These results show beyond a reasonable doubt that there is a close relationship between weakness of discipline and weak personality. From these studies we are perhaps justified in concluding that individual efficiency in teaching depends on at least three major factors: personality, scholarship, and professional training.

---

[1] *School and Home Education*, Vol. XXXIII, page 205.
[2] *Ibid.*

Teaching Personality

Fundamental qualities of teaching personality. President McKenney, of the Michigan State Normal College, has admirably analyzed the fundamental qualities in the teacher's personality as follows: sympathy, sincerity, justice, dynamic knowledge, good breeding, and idealism.[1]

Through sympathy the teacher is able to put himself in the child's place, to get his point of view and to see things as they really are. We all love people who are sympathetic and who can understand us. Sympathy enables the teacher to make allowance for childish ignorance, thoughtlessness, and failings. Sincerity implies high moral standards and singleness of motive. When the teacher is sincere, children have no reason for suspicion or doubt. They have no difficulty in discovering the teacher who is "two-faced," and once they "find out," then that teacher's usefulness is at an end. No teacher can ever be successful in pretending to know more than he actually does. Justice implies a "square deal," the willingness to look at all sides of the problem, to take into consideration all foreseeable consequences before passing judgment. A keen sense of justice makes impossible snap judgments; it enables us to look before we leap. All normal children are very quick to respond to the ideal of justice, and to be the "teacher's pet" is to be ostracized from child society.

Dynamic knowledge means facts organized and closely related to life. It refers to ideas that "get somewhere."

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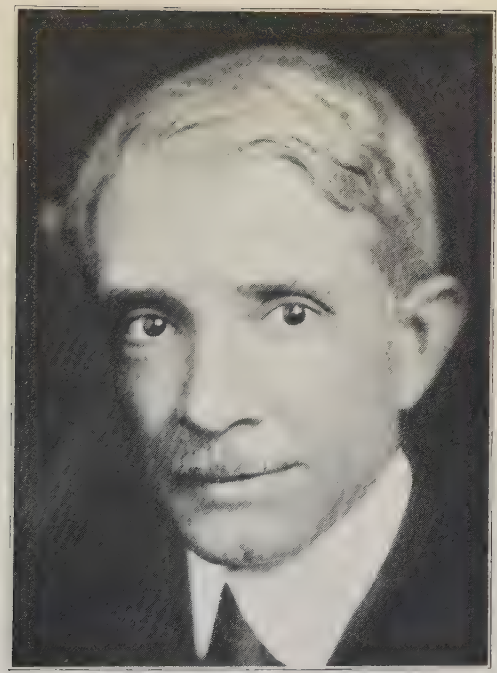
[1] Quoted by Miller, I., in *Education for the Needs of Life*, page 326.



WILLIAM CHANDLER BAGLEY

William Chandler Bagley has made a positive contribution to education through his books and writings. He has done much toward placing teaching and the preparation of teaching upon a dignified, professional basis. He is one of the leading authorities on the professional preparation of teachers.

It is the ability to act in new and novel situations, to do the right thing at the right time. The dynamic knowledge in the teacher arouses in the pupil a keen desire and a high aspiration for learning. Good breeding implies a keen sensitiveness to the finer things of life. Does it make any real difference whether a man eats with his knife or with his fork; whether he raises his hat to a lady; whether he rises when a lady enters the room; whether a lady says "thank you" upon being given a seat in a street car? As a matter of fact, it is a sensitiveness to these little finer immaterial things of life, the requirements of polite society, that we all admire and respect. Good breeding prompts the teacher to respect the rights of children just the same as those of adults in matters of social relationship. And in those inevitable contacts with the home of the pupil, the teacher will find that angry and ignorant parents and parents of ill will are more likely to be favorably influenced by the teacher of whose personality good breeding is a vital part.

The work of the teacher is one that demands a large amount of idealism. It is absolutely necessary that teachers should develop a high code of ethics, for teaching touches child life at more points perhaps than does any other form of human activity. The wide-reaching importance of teaching brings with it the fullest opportunity for service. To inspire the oncoming generation to think rightly and to act honorably, and to raise the level of thinking and living is the big job of teachers of today. The teacher must therefore believe that to education "all things are possible." This does not mean that he will ignore individual differences or original capacities, but it does mean that the true teacher, filled with high idealism, will never give up hope that every pupil under his direction can make some worth-while achievement, even though it may be relatively small and insignificant. The function of the teacher is not to create brains but to prevent a lamentable waste of them.

Investigate the cases of teachers who have been leaders and inspiring examples in any school or community, and you will find that their reputations are the result of patient building with the ideal of a desire ever to deal fairly, liberally, and considerately. Their envied names stand for dependability, honor, service, and success. A real teacher is a leader in intellectual and moral standards. Whatever the inspiring teacher says or does is a beacon light guiding children to walk in the same path of uprightness. The aims and ideals of such a one are an inspiration to all; and as respect for him grows, he not only increases his influence and service, but reaps for himself rewards of happiness and success.

Good example must ever come from those who are superior in intelligence, for they are the ones who must take the leadership for the better things of life. If we teachers conduct ourselves according to the highest ideals, we necessarily inspire others to follow our example. Thus we influence and foster human advancement and betterment. To render this kind of honorable service is to add to the world's welfare and to our own happiness.

Can personality be developed? The following list[1] of ten qualities (in order of their frequency) represents the composite judgment of 100 experienced school men as to the composition of the "teaching personality":

1. Sympathy.
2. Personal appearance.
3. Address.
4. Sincerity.
5. Optimism.
6. Enthusiasm.
7. Scholarship.
8. Vitality.
9. Fairness.
10. Reserve or dignity.

---

[1] Quoted by Bagley, W. C., in *School Discipline*, Chap. III.

In commenting on these results, Bagley says:

> The important result of this study is the evidence that it offers against the fatalistic notion that the important factors in the teacher's personality are not improvable through the discipline of experience and training. There are undoubtedly some individuals who could never improve their manner of meeting people (their "address"), and there are others perhaps who could never make their "personal appearance" more attractive. Still others, it is clear, are natural pessimists, and neither experience nor training nor inspiration could transform their gloom and oppression into "optimism" and "enthusiasm." Still others are naturally undignified and can have no commanding influence over their fellows. They lack "reserve" and can never create it. Some, too, are naturally unfair, or weak in vitality, or deficient in sympathy. But after all acknowledgment has been made to the fatalists, it must still be admitted that most individuals can change and improve these various qualities. Knowing what factors "count" in a teaching personality, the beginning teacher, under wise supervision, may adopt measures that will work what might seem at the outset to be little less than a miracle of transformation.[1]

There is rather clear evidence that both experience and training have a positive effect in improving the "teaching personality."

Ways of improving personality. The fundamental principles underlying the growth of personality may be summed up as follows: the desire for self-improvement, self-examination, focusing upon ideals, and the selection of a favorable environment.

A strong desire for self-improvement is a dynamic force in life. Most of us are suffering from a feeling of self-satisfaction. We are prone to set up higher standards of conduct for others than we have for ourselves. Desire for self-improvement depends upon self-examination, as there will be no desire for improvement until there is some definite consciousness of defect. This is where self-examination and self-criticism play the leading role. At more or less regular intervals we should take ourselves away from the "noisy world" and analyze ourselves to find out just why we are not accomplishing what we should. In our hurried and crowded lives we all need an occasional hour of solitude which gives us a chance, as it were, to stand face to face with ourselves.

---

[1] *School Discipline*, page 33. Reprinted by permission of The Macmillan Company, publishers.

Having, then, the desire for growth, the next step is the discovery of our own weak points. Self-examination and self-criticism discover the direction in which improvement is desirable, but growth will not come through criticism alone. Mere criticism and fault-finding with one's self may lead to nothing but discouragement. Real growth comes through focusing our attention upon the ideal which is the goal in the opposite direction of our defect.

A favorable environment will do much for a teacher in developing an interest in the work and in the improvement of the work. A favorable environment is likewise absolutely necessary for emotional peace and the absence of worry. The selection of a favorable environment is always partly under our control, at least to the extent that we can almost always choose the companionship of right people and right books. Teachers need a broad and varied contact with people, especially with those outside the profession.

Thus we see that there are at least three factors necessary for improving the teaching personality: the desire to improve, the ability to improve, and a knowledge of how to improve. No teacher is a failure through choice. Most teachers have the desire and the ability to improve, but lack a knowledge of how to improve. Some few teachers have the desire, ability, and knowledge, but still fail to improve because of laziness, timidity, or worry. In discussing the general psychological factors and conditions of improvement, Thorndike lists several which apply equally well to improving the teaching personality: interest in the work, interest in improvement, an active inquiring attitude, acceptance of the work as significant to the worker's wants, the absence of irrelevant emotional excitement, and the absence of worry.[1]

BROAD SCHOLARSHIP

Every teacher should know more than he teaches. The youngest pupil in kindergarten knows enough to appreciate the fact that no one should attempt to teach what he does not understand. Adequate scholarship for the preparation of teaching should go beyond the subjects to be taught and take account of those subjects which are related to them. This is absolutely necessary in order to know what to emphasize and what to neglect in the subjects to be taught. For example, a rich background in literature, history, and related subjects is necessary for the teacher of English really to know the sources of good material in selecting various types of literature and in properly interpreting them. Adequate scholarship makes possible a breadth of view and a keen appreciation of the things we are doing.

We all learn what things are by finding out what they mean to other people.

> By taking heed of what others are doing, the child gains a mastery of the means for the expression of the capacity for which he is endowed by nature: the meaning of a hammer is understood when we grasp the purpose of the carpenter to drive nails; the meaning of a spade when we perceive that the soil in the garden is to be loosened and turned over; the meaning of pencil and paper when we understand their relation to writing and drawing.[2]

---

[1] Thorndike, E. L., *Educational Psychology, Briefer Course*, Chap. XV.

[2] Bode, B. H., *Fundamentals of Education*, page 29. Reprinted by permission of The Macmillan Company, publishers.

This is a fundamental principle, and its truth places a real responsibility upon every teacher. Geography, for example, will mean to the child just exactly what it means to the teacher, and unless the teacher has a broad knowledge and a keen appreciation of the subject, it will be impossible for the child to gain much from a study of geography.

Professional Training

The third essential of good teaching is professional training. Professional training includes the study of the sciences which lie back of educational theory (psychology, sociology, biology) and those subjects having to do directly with the problems and technique of teaching. Such training gives method a scientific foundation by a study of the laws of learning and the original nature of the child. It gives direction and power to the work of the teacher through knowledge of the aims and ideals of educational leaders in the past, of the aims of education today, and by providing a sound philosophy of education. Furthermore, through professional training, student teaching and directed observation are provided. These are based upon the theory that the best method of imparting the skill and technical knowledge needed in any vocation is the actual participation in the activity being learned. Through student teaching, pre-service teachers, under close supervision of training teachers, come into direct contact with the important phases of the teaching process, and through directed observation they see expert teaching in many different subjects. The vast majority of teachers need professional training because it gives direction to their teaching, helps them master the technique of teaching, and gives them an instrument by which they can criticise their work and develop the stimulus to self-improvement.

Functions of a teacher-training institution. The functions of a teacher-training institution are: to make it possible for teachers and prospective teachers (1) to gain a thorough knowledge and appreciation of subject-matter as a means of interpreting life more fully; (2) to gain a thorough knowledge of educational biology and psychology that they may understand and appreciate the nature of the child, and the laws of learning upon which the principles of method are based; (3) to gain real insight into a sound philosophy of education which determines the educational ideals and aims; (4) to understand an educational sociology which reveals the school as a social institution and the child as a vital part of the social environment; (5) to acquire the technique of teaching through closely supervised student teaching and directed observation; (6) to feel themselves as a vital and necessary part of the school organization through a working knowledge of the administration and organization of the public school system.

Fundamental information for the teacher. There are certain facts and principles which teachers should know, regardless of whether they are in the elementary or secondary school, whether they are supervisors, principals, or superintendents. Below is an attempt to list the minimum essentials that every teacher should master. There will be an overlapping among these; a certain amount is necessary to establish proper relationship between the various subjects. A certain amount of overlapping is a good thing, as it serves as a "warming-up" period for an attack on the new problem. No attempt is made to list these essentials in order of importance.

1. Knowledge of the child—individual differences in comprehension and speed of learning, in previous training, in mental age, ability, interest, and sex.

2. An intelligent conception of what the minds of the

pupils are doing in learning subject-matter or acquiring skill—the fundamental laws of learning.

3. Measuring the results of teaching—use of standard tests.

4. Aims, functions, and purposes of education.

5. The historical development of the modern public school as a social institution and its relation to other social institutions of today.

6. The organization of public education—units of administration and methods of control.

7. A knowledge of the relation of subject-matter to the needs of the child and the needs of society—the relating of subject-matter to the aims and functions of education.

8. The various ways of presenting subject-matter, the various types of classroom procedure—inductive and deductive, object, socialized, appreciation, drill, review.

9. A knowledge of the problem of the control of the behavior and conduct of pupils in school—understanding of proper standards of conduct according to the age of pupils and school conditions; understanding of rational measures of discipline that are adequate to maintain the standards set up.

10. A knowledge of the physical defects prevalent among school children, and of the methods of preventing and detecting them.

Questions and Problems

1. Give arguments against the statement that ‘‘Teachers are born, not made.”

2. Why do teachers need a broad and varied experience with people, especially with those outside the teaching profession?

3. In the study made by Buellesfield (page 6) list five of the factors that are likely to characterize young and inexperienced teachers.

4. What is meant by the professional attitude of the teacher? Name five characteristics of a true professional attitude in teaching.

5. When is a school said to be badly disciplined?

6. Justify the statement that problems of discipline are merely problems of instruction.

7. How would you characterize an effective punishment?

8. Why are elementary school teachers not required to have as much preparation as high-school teachers? Can you justify this condition?

9. As you think back and recall your elementary and high-school teachers, how many of them really made a lasting impression upon you? What factors gave them their power?

10. List several reasons why you have disliked certain teachers.

11. What does a geography teacher need to know that an art teacher need not know?

12. Should a course in American history given in a teachers' college be the same type of course in content and method as that given in a liberal arts college? Justify your answer.

13. How can we determine whether an individual has the necessary qualifications for a teacher?

14. Should a teachers' college eliminate those students who have not the necessary qualifications for successful teaching?

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CHAPTER II

THE TEACHER'S PHILOSOPHY OF EDUCATION

The Need for a Philosophy

Every individual has a philosophy of life. He may be an optimist and see the bright side of life. He may be a pessimist and look on the dark side of life. He may be too busy to think of life in terms of good or bad. He may judge the value of everything in terms of money. He may value things on the basis of the amount of happiness they give to others. No matter how a man thinks of life and values, his thoughts constitute his philosophy. Every teacher has a philosophy of life and, added to this, he should have a definite philosophy of education. They will include the way he looks at life and education, and the terms in which he judges values.

Every teacher should strive to have a right scale of values. The teacher who works for mere money, or to have something to do, or because he is trained to do nothing else has the wrong way of thinking about his work. Every teacher should feel that education is the greatest work in the world. There is no other occupation that has as much to do with determining the future of the nation. The combined efforts of the teachers can build up the wrong ideals in a nation, and they can also build up the right ideals. The teacher must think about his work in terms of the greatness and of the sacredness of the task to be done. This must be the basis of his philosophy of life. A teacher must also love children and see the bright side of life. If he does not, the children in his care will not get the greatest good out of childhood.

It is not enough for a teacher to have a right philosophy of life and an adequate conception of the bigness of his work. He must also have the right philosophy of education. What is education? Why should children go to school? What should a teacher hope to accomplish? What is the function of subject-matter? These are some of the questions that can be answered only by a teacher who has the right philosophy of education.

Through the ages those interested in the training of children have answered the above questions in many different ways. Different philosophies have been developed as man's attitude toward education has changed. Even at the present time many different philosophies of education exist. The private school that rests its claim for fame on the number of its graduates that pass college entrance examinations has a philosophy of education vastly different from the school that counts its greatness in terms of the useful citizens it has produced.

A Good Philosophy of Education

John Dewey is generally considered to be America's greatest educational philosopher. His teachings form the basis of the most advanced thought and practices in the best American schools today. Dewey's philosophy is concerned with public education in a democracy. If America is to continue as the world's greatest democracy, we must have education that is democratic in its thinking and in its practices. A short explanation of Dewey's philosophy is here given.

Education is life. Many educators have believed that the child existed for the sake of the man or the woman that was to be, and that education should be preparation for the adult life to come later. This is not true. Education *is* life. It is a continuous process from the beginning to the end of life both in and out of school. Deal with the child each day as an individual with real problems to solve and a real life to live, and when the child reaches maturity he will be more able to deal with the adult problems that will then confront him.

Education is growth. When a child grows from what he is one day into what he is the next day, the great process of education is taking place. As long as growth continues, education is taking place. It is the function of the school and the teacher to see that this growth continues day by day. If growth is a constant process during school life, then it will continue after the child leaves school. Growth that begins in school and continues throughout life is the great goal of modern education. Reading is a good example of this. It is not enough for a child to learn the mechanics of reading; he must be given ample opportunity to read and to enjoy good literature. He must form good library habits. He must learn to know worth-while literature. Knowing how to read is valueless unless a child learns what to read. If the school accomplishes this, the individual as an adult will continue to read good literature. This is true education.

Education is a social process. Education in America must be education for democracy. If education is life and growth, then it must be life within a social group. It was believed at one time that education was best accomplished in a quiet place where the learner was uninterrupted. It may be true that learning takes place under such conditions, but education is much more than learning. It is living. Schools must be democratic communities wherein children live natural, democratic lives with their companions and grow into adulthood with good citizenship a part of their experience. In sharp contrast to this method is the one which would have children learn the *rules* for good citizenship. These rules may be taught in a non-democratic school by a teacher who is an autocrat. The difference between the results of the two methods is that in the first case the children, through experience, *are* good citizens, while by the second method, through knowledge, they merely *know how* to be good citizens.

Education is the continuous reconstruction of experience. The activities of each day are based on past experience. Every day of a child's life is conditioned upon previous days. However, if education is growth, some new element is also added. When the new experience is added to the old, it is all reorganized in the light of the new experiences. This forms a new basis for experiences to come later. The "reconstruction or reorganization of experience which adds to the meaning of experience, and which increases ability to direct the course of subsequent experience,"[1] is, according to Dewey, education.

The above are the essential points of a good philosophy of education. If a teacher knows that education is a present activity and not a product to be striven for, that it is life and growth in a social environment, he will drop from his teaching many common bad practices.

The remainder of this chapter will take up some important educational theories in the light of Dewey's philosophy.

OTHER THEORIES OF EDUCATION

Education as preparation. This is an old idea of education. In America it is closely related to the history of the development of our schools. The college was established first, and the high school was later established to prepare for the college. Still later, the elementary school began to prepare children for the high school. Each school had a set of entrance examinations, and it was the function of the lower to prepare pupils to pass these examinations for the next higher.

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[1] Dewey, John, *Democracy and Education*, page 89.

The philosophy of John Dewey condemns such an idea of education. If education is life and growth, then a child does not go to school today so that he may be prepared to go to school tomorrow; but he goes to school today in order that he may live to the fullest today.

People who believe in education as preparation not only think that each school is a preparation for the school above, but that each part of the school is a preparation for adult life. Children are constantly told that they must do this and must not do that because they will need this and will not need that when they become adults. This is a very bad philosophy of education. Children live proverbially in the present. It is difficult to get a young child to do an uninteresting task because it will help him to do something when he becomes an adult.

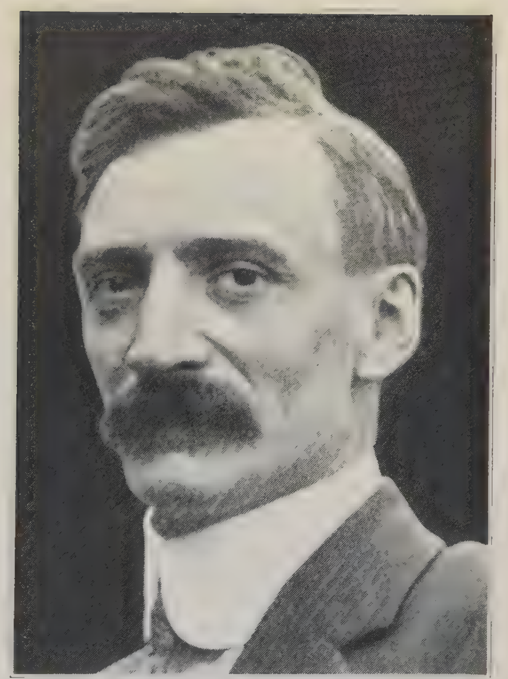
The old idea that we should test all educational values by future needs results in procrastination. When a child is assigned a certain problem and told that he must accomplish it because it will help him when he grows up, he will naturally think that because it will be a long time before he is grown up, he will have a long time to do the problem. However, if a real problem is assigned to a pupil and he sees the connection between the problem and his present life, he will do the problem now and not some time between now and adult life. When you take away from children the immediate appeal of work, it is necessary for the teacher to substitute artificial means in order to accomplish his end. Threats, bribes, and punishments are very common as a means of compelling children to work when the work has no meaning to them except preparation for adult life.

It is not necessary to go to the opposite extreme and say that education should not prepare for adult life, but it is wrong to consider preparation for the adult life as the end of education. If a child grows and lives to the fullest today, he will be able to live better and grow better tomorrow, and when he becomes an adult he will be prepared to live to the fullest as an adult. This is, in truth, preparation for the future. But the child does not know he is preparing for the future, and he does each task of each day for the joy of doing the day's work well.

Education as unfolding. Some educators believe that education is a process of unfolding. Like education as preparation, this theory sets a distant goal for education. But these educators believe that, instead of simply driving children forward to that goal by bribes, threats, or any other means invented by the ingenuity of a teacher, a child should unfold toward this goal. This idea is based on the belief that a child innately has the possibilities of development to a certain goal, and that it is the teacher's business, by skillful questioning and careful leading, to draw them out of the child. This philosophy is not as bad as the idea of education as a preparation for adult life, but it does have all of the bad features of education which aims at a distant goal. It does not have the bad teaching practices which come from driving on toward this goal. It does, however, have bad teaching practices, because teachers attempt to draw out from pupils things that are not there.

Education as unfolding is not a common doctrine in education. However, there are a few people who still hold to this view.

Education as formal discipline. The doctrine of formal discipline teaches that subjects are not taught for their own intrinsic value, but for the mechanical effect they have on the mind. When a child goes to school and studies,



BOYD HENRY BODE

Boyd Henry Bode is ranked among the leading thinkers in the field of educational philosophy. His greatest contribution comes from his ability to make philosophy practical and usable in the problems of educational theory.

he does not do this primarily in order to learn, but to have his imagination, memory, will, and other "faculties" trained. This doctrine is based on the old "faculty" psychology. This psychology taught that the mind is made up of a group of separate faculties, each of which could be trained through exercise. A parallel was often drawn between the mental and the physical. The muscles of the arm can be trained through exercise; therefore the fiber of the will can be trained through exercise. The same thing was believed of all so-called mental faculties.

Many subjects that are now in the curriculum of the public schools are there because of their so-called disciplinary value. Every subject in the school curriculum was put there originally for some real purpose. For example, Latin and Greek were first put in for their trade value. But, as their trade value disappeared, they were kept in because they were thought to have this so-called disciplinary value. A child is often told that if he studies Latin it will train his mind to do certain other pieces of mental work. The same value is also claimed for other subjects which have little practical value, and an attempt is made to justify them on the basis of formal discipline.

The idea of formal discipline has been a factor in the educational field for many years and is still held by a few educators. However, the tendency of today is decidedly away from formal discipline. The present-day psychology does not lend itself to the ideas of formal discipline. Modern psychologists do not believe that the mind is composed of a group of faculties. The modern view holds that the mind is not divided into parts, but that it functions in various manners. When a man wills to do a thing, it is the whole mind that does it and not a "faculty" called will. A man may think, remember, love, and will, and it is still the same man and the same mind that is functioning. Furthermore, experimental evidence is very much against the doctrine of formal discipline. Experiments that have been carried out in past years have shown quite conclusively that so-called formal discipline does not exist. It is interesting from the teacher's standpoint to think straight on this subject. If a teacher follows the philosophy of John Dewey and believes that education is life and growth, he cannot believe in the doctrine of formal discipline. He will teach his pupils so that they will live and grow to the fullest, and he will not worry about developing some mythical faculty.

Education as recapitulation. A group of educators led by the late G. Stanley Hall have believed that education should be a living over or recapitulation of the history of the race. This theory is known in education as the culture-epoch theory. It finds its basis in human embryology. These psychologists believe that the individual lives over again the history of the race from the time the cells unite to form the individual until the end of the period of childhood. Various studies have been made which tend to show that the human infant passes through these stages of race development before birth. This may or may not be true. For those interested in education it is not of particular importance to know whether it is true or not. Educators are interested only in the conscious, living, breathing child after birth.

The believer in this theory would study race history and pattern the education of the child after the development of the race. There are many objections to this belief in education. In the first place, it leads backward instead of forward in the search for subject-matter and methods. Furthermore, according to this theory it is not necessary to study the individual child. It is necessary only to study the history of the race if we wish to know what education the child should be given. Finally, the culture-epoch theory neglects to take into account the short-cuts of nature. It is not necessary for the child to go through all the stages of development of the race, because the individual can find many valuable short-cuts to the same material. Most of the leading psychologists and philosophers of the day are much opposed to the culture-epoch theory. The teacher will get many more hints as to the education of children by studying children and their daily needs than he can from attempting to study the remote history of the race.

Education as acquiring knowledge. To the believers in the "education as acquiring knowledge" theory, to be educated is only to know. The educated man of the past might shut himself away from his fellowman and live a non-social life so long as he was gaining more knowledge. Today the emphasis of education is not on knowing, but on doing. According to Dewey's idea of education, a man may know everything there is to know in the world and still not be educated. It is true that knowledge is a necessary part of education. Man does his work in life better if he has command of certain facts. But the true aim is knowledge for the sake of doing and not for the sake of knowing.

If knowledge is the primary aim of education, then subject-matter becomes supreme. It matters not how a teacher teaches children so long as they get the necessary knowledge. Punishment, bribing, and other forms of inducing children to study are very common with teachers who believe that knowledge is the end of education. Knowledge is still supreme in those secondary schools whose chief function is to prepare students for college. The element that is stressed during the whole four years of work in these schools is the knowledge that will be necessary to pass an entrance examination. Such a school is not educating children, but is hindering the natural process of life and growth.

Motivation in education. Why does a child study? Why does he learn to read and write? How can a teacher get her children to learn the multiplication tables? The child must have some motive. It has been suggested that when the goal is in the distance and when knowledge is the end of education, punishment, bribes, prizes, and other external stimuli are often given to the children in order to urge them on to do good work. There has grown up in education an idea which is called "motivation," which means that the child is given a motive for doing the necessary school work. Is motivation a good or a bad thing in education? The answer depends on how motivation is used. When the motive is external to the activity, motivation is bad. If a teacher wishes to have her children do a certain piece of work and offers them prizes for doing it, the motivation is bad. An example of this might be the giving of a prize for learning the multiplication tables or learning to spell long lists of words. Prizes of all kinds are examples of false motives.

Good motivation obtains when the motive for doing the act lies within the act. In the case of writing, a child may wish to learn to write so that he may send a letter to his mother. He will practice his writing then because it has an intrinsic value to him. This idea, of course, motivates the learning. This is an example of good motivation. In every case, whether in school or out, it is easy to decide whether a motive is good or not. If the motive is within the act and if satisfaction is the natural result of the act, it is a good motive. If the motive is something that is external to the act and is offered to the child in order to get him to do the act, then the motive is bad.

Subject-matter and method. There has been much discussion in education as to the relative values of subject-matter and method. Such a discussion will do very little good, because no school is possible without both subject-matter and method. In the old schools subject-matter was supreme. This was particularly true when education was thought of as preparation for college or when knowledge was the end in education. When education and life are synonymous, when the process of education is conceived of as a process of growth and development, method has a much more important place. Method, at the present time, holds a more important place than subject-matter. It will always be necessary to have subject-matter in the schools, and this subject-matter should be presented by the best method in order that children may live and grow to the fullest.

Logical versus psychological. Another discussion common in the educational field is that of the psychological versus the logical method of presenting subject-matter to children. The old school favored the logical method, while the newer school favors the psychological method. A good example may be taken from geography. If geography is taught logically, the child first learns that the world is a sphere and that it is made up of continents and oceans. He then learns the names of the continents and oceans and later divides the continents, learning the names of the various countries. By this process of logical division he will finally arrive at the smallest division of the country, and the last thing to be studied will be home geography.

The psychological method is just the opposite. It is also in harmony with the philosophy of education which has been explained in this chapter. If education is life, then geography should start where children have life contacts with geographical material. This, of course, will be at home. Geography that is taught by the psychological method will start with the home surroundings and gradually, through relationships, move to the state and to other parts of the country. It is always best to start a new piece of work by finding out the present contact the children have with the field. This helps to make the work more real and life-like.

Environment of Education

Environment is an important factor in all life. Whether it be plant or animal life, the type and the amount of growth are dependent upon environment. When we conceive of education as life, environment becomes a very important factor in education. As long as education is conceived of as knowledge-getting, environment has nothing to do with the process. But, as soon as an education is conceived of as living and growing, the environment becomes the greatest single factor.

In America, where children live in a democracy, if they are to know how to live, we should surround them with a democratic environment in the schoolroom. No matter what we wish to have children become or accomplish, we can do the things best by controlling the environment of the child. Take music for example. Under the old ideas of education the child learned names of composers and dates of compositions and learned to recognize by memory certain compositions when they were heard. In all of this, knowledge was the chief aim, and environment had very little value. But appreciation of good music should be an important factor in the life of the child. In the elementary schools an attempt is made to develop in the child a love for good music and an ability to sing many simple songs. From the standpoint of environment, this is accomplished today by surrounding the child with good music and giving him ample opportunity to sing good songs. The same thing is true with art. Today the child is surrounded by beautiful pictures and artistic surroundings in order to develop his appreciation. Environment is a better teacher than books.

Questions and Problems

1. Why is it important that the teacher have the right way of thinking about her work?
2. Why is education so necessary in a democracy?
3. What, according to Dewey, are the important factors of education?
4. What harm may result from teaching children the rules for citizenship?
5. What are the bad teaching practices that result from the belief in education as unfolding?
6. What are the shortcomings of formal discipline as an educational guide?
7. How may one determine whether motivation is good or bad?
8. Make a list of examples of good motivation.
9. What is the relation between subject-matter and method?
10. Give examples to show the logical and psychological method of presenting subject-matter.

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CHAPTER III

THE TEACHER, THE SCHOOL, AND THE COMMUNITY

The School a Vital Part of the Community

The philosophy of education explained in Chapter II broadens the scope of education and infinitely expands the work of the teacher. Education is no longer a mere matter of learning facts. Teaching reading, writing, and arithmetic is a small part of the work of the teacher. The school should serve every member of the community, and its influence should be felt every day of the year. Life in the school should be closely connected with life out of the school. The ordinary activities of the community should find a place in the activities of the school.

Training for citizenship is one of the best methods of making the school a living part of every community. This training cannot be done in an ordinary class with a book. Pupils must be good citizens in school in order to be good citizens in the community. A school that is run on the old "birch rod" method does not train for citizenship. A school gives this training only when the children have a part in the planning and the governing of the school.

Organizing the School Into a Community

One of the latest and most important developments in this work of making the child a worthy member of the community is the "coöperative school." Each child is a responsible citizen of the school community. In some cases the various grades are organized for self-government. The Mitchell School in Denver, Colorado, is a good example of this type of organization. The following extracts from the constitution adopted by the students illustrate the method:[1]

Constitution of Maria Mitchell School

PREAMBLE

We, the pupils of Maria Mitchell School, in order to make Maria Mitchell a better school and to make our pupils better citizens and to enable them to take intelligent part in community life, do ordain and establish this constitution for the Maria Mitchell School.

CONSTITUTION

Article I

LEGISLATIVE POWER

Section 1

The Legislative power shall be vested in a Congress which shall consist of two eighth grades and two representatives from the Seven A grade.

Section 2

The Congress shall meet regularly Wednesday or Friday afternoon of each week.

Section 3

A person is entitled to hold not more than one office at a time.

Section 4

Each Congressman is entitled to one vote only.

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[1] The material for this discussion was very kindly furnished by Mrs. Margaret Mendenhall Smith, principal of the Mitchell School.

Paul V. Wes

Section 5

Any law passed by Congress cannot go into effect until it bears the President's signature. If vetoed by him, it shall go back to the Congress where it must have a two-thirds majority of votes to pass over the President's veto.

Section 6

Clause *a*. The Congress shall have power to plan entertainments for the Seventh and Eighth grades of the Maria Mitchell School.

Clause *b*. The Congress shall have power to levy and collect all fines in the Seventh and Eighth grades.

Section 7

The Vice-president shall have power to appoint two standing committees—a committee of finance and a committee of ways and means, each committee to consist of three members.

Section 8

The "Eight A" pupils of the school shall be known as the Senators and the "Eight B" pupils shall be known as the Representatives.

Article II deals with executive powers; Article III, judicial powers; Article IV, bills and resolutions; Article V, general provisions; Article VI, revenue; and Article VII, ratifications and amendments.

This constitution forms the basis for some very efficient training in good citizenship. The children discuss and legislate on problems of interest to students. Many schools have set up legislative bodies which have failed because they have discussed problems of interest to adults and of no immediate concern to the pupils. A seventh grade "Senate" discussing the popular election of United States senators has no real problem to solve. But the same group discussing means of fire protection in the school building has a real problem.

The following bill is an example of legislation passed by the pupils of the Mitchell School:

A BILL

By Senator Zimmer

An act to provide milk for the Maria Mitchell School.

Be it enacted by the Congress of the Maria Mitchell School:

Section 1. That milk be provided for the Maria Mitchell School.

Section 2. That this milk be taken care of by the Domestic Science teacher assisted by the pupils.

Section 3. That this milk be paid for by the pupils.

Section 4. (Emergency clause, Section 4.)

In the opinion of Congress an emergency exists, and this bill shall go into effect immediately after its passage.

The Committee of Ways and Means approves this bill and recommends its passage.

Wesley Howard, *Chairman*
Approved: Robert Johnson, *President*
by
Mildred Landgraf, *Secretary of State*

The Mitchell School has become a vital part of its community in Denver. The school is filled with life problems. The parents come in great numbers when anything of special interest is offered. The children live natural lives, they attract the community to the school, and the training they get makes them better citizens.

THE TEACHER AND THE COMMUNITY

When a teacher is employed in a public school, he should become a vital element in the life of the community. Many teachers, in the past, have maintained a different point of view. They have held themselves aloof from the political, religious, and social life of the community. They believed that this aloofness added dignity to their position and value to their work. School officials are not looking for this type of teacher today. Such a teacher does not by this attitude add to his usefulness, but rather detracts from his value. The best teachers of today enter heartily into the activities of the community in which they serve.

In the early days of the American public schools the teacher "boarded 'round." He lived for a time with one family and then with another until he had lived with the parents of all children in school. If a family had two children the teacher stayed twice as long with them as with a family that had but one child in school. The teacher was compelled to put up with very bad conditions, but he became very well acquainted with the parents in the district.

The aloofness later assumed by some teachers was a natural reaction against ''boarding 'round." Of course, a teacher should not be compelled to live with the parents of the children he teaches. However, he can and should become a vital element in the life of his community by living in that community and being a good citizen. He should be interested in all good causes and active in their support. The teachers of America have contributed much toward clean politics and the advancement of righteousness in political and social life. A teacher must consider himself a part of every worth-while undertaking in the community. This is but doing what every wide-awake, live citizen should do. But this is not all. A teacher who teaches during the regular school day and lives the life of a progressive citizen may still miss many opportunities for bringing the school and the community closer together. He must be actively engaged in some school-community coöperative enterprise. The successful school system of today must give as much attention to these activities as to the teaching of the three R's.

We hear much these days about "selling" the schools to the community. This is a poor expression and may give a wrong impression of what is meant. In the best sense it means bringing the schools and community into closer touch by telling the community about the schools, and by bringing the schools into the homes. This can be best done through some of the organizations and methods given below. Every organization that has real value and that causes the schools and the homes to come closer together should be encouraged.

There are a great many organizations that help to accomplish the purpose set forth. It is possible to mention only the most important in this chapter.

Channels of School-Community Activity

The Parent-Teacher Association. The greatest organization for bringing the parents and the teachers into closer touch is the Parent-Teacher Association. No school should be without its P. T. A. When parents and teachers come together at regular intervals and have a professional and social hour together, much good results. The P. T. A. not only brings the schools and the community closer together, but it helps to better school conditions. If a school system wishes to start a health crusade, get better salaries for teachers, or do anything to improve the schools, the P. T. A. is of great assistance. Every good cause which will help the schools is backed by this organization. In the city of Denver the campaign that has been carried on in recent years to renovate the schools, build better buildings, and raise the salaries of the teachers was backed at every step by a very efficient Parent-Teacher Association. A local association must not become purely social or purely professional. The organization that maintains a balance between the two with both elements present at every meeting prospers best. The teachers must always participate fully in the activities of the P. T. A. If the teachers lose interest and drop out, the parents may also lose interest, and the organization becomes ineffective.

The visiting teacher. The compulsory attendance laws afford an excellent means for coöperation between the teachers and the parents. These laws are often the basis of trouble because they are not wisely administered. Every state has some sort of compulsory school attendance law. Where there is such a law, means must be provided for its enforcement. In the past these laws have been enforced in most states by the city police departments, and even where special attendance officers have been appointed by the school system, they have been made special members of the police force. The idea is an old one. Compulsory attendance is a matter of law. A child who is not attending school is breaking a law, and the best way to deal with such a case is to send an officer of the law after the child. By this means he may be frightened into going to school, or pressure may be brought to bear on his parents by bringing them into court and fining them.

But this method has little to recommend it. Today, progressive school systems have replaced the police or attendance officer with a visiting teacher. If a child is not in school, instead of sending an officer of the law after him, a sympathetic member of the teaching staff is sent to the home to inquire concerning the cause. Many times she discovers that the parents did not know of the child's absence. If an officer of the law goes to a home he arouses opposition. If a visiting teacher who knows her work goes to the home, she immediately makes a bond between the home and the school, and together they solve the problem. In the future, the enforcing of the compulsory attendance law in that home is much easier, and the schools have won a friend. A school that handles its attendance work in this manner is "selling" the schools to the community.

Americanization of foreign-born. The school that confines its efforts to the children of legal school age, during regular school hours, misses a great opportunity for service in the community. This is particularly true of schools that are located in foreign districts of the city or country. Large numbers of immigrants come to America and settle in groups where it is possible for them to maintain their old language and customs. The children of these parents come to the American public school. Here they are taught the English language and the habits, customs, and ideals of the American people. However, the task is made very difficult by parents who do not understand American ideals or the American schools. A child of foreign parents who has five hours in the American schools and the remainder of the time at home with the language, habits, and ideals of a foreign country finds it difficult to become a real American citizen. The only possible solution of the problem is to bring these parents into the schools and Americanize them.

The mothers can be formed into a Mothers' Club with afternoon meetings. This has been done successfully in many cities. At these meetings they can be taught much about the American way of doing things. The fathers and mothers can both be brought into night classes. In these classes they can be taught to speak and read English. They can also be taught American government and American ideals. Night schools may also teach trades and prepare the adult students to hold better positions. In commenting on the work done in Denver the "School Review," official paper of the Denver schools, said:

> The attempt is made at all these centers to make these people feel thoroughly at home. Either by the adjacent school and

community organization, or by patriotic societies, entertaining programs are given, the purpose of such, of course, being to increase knowledge of the land about to become theirs, and to secure confidence on their part that they will be cordially helped in their every effort to meet fully the requirements of the naturalization law.

The great value in the work explained above is not that the foreign born are taught to read and write English. It is that they are made to appreciate the public schools, and to understand something about America. The children of school age learn not only the ordinary school subjects, but in many schools are taught how to live. The Webster School in Denver, made up of southern Italians, does this type of work. A part of this school's equipment is a small, fully furnished apartment. Every boy and girl in this school is given a thorough course in home training. This school has a wonderful influence on the children, and through the children it reaches every home in the community.

Playgrounds. In the ordinary school the child is free from his work about 3:00 or 3:15 in the afternoon. The present tendency is to lengthen the school day and vary the school program, giving one or more play periods during the day. However, in most schools the children are free from school several hours each day. In good neighborhoods no thought need be taken of this time, because the children are properly cared for at home. In many other districts the children have no place to go. The number of families where both parents work is increasing rapidly. In some city school districts the number has reached as high as 50 per cent. Most of these children spend the after-school time on the street learning habits that are bad and doing much to overcome the good influence of the school. These children should be provided with playgrounds by the school. These grounds, if well equipped and properly supervised, may do a world of good in the type of community just described. This work belongs to the school. No other agency is prepared to handle it adequately. The school that does not assume this responsibility is shirking its duty. The teacher who thinks that responsibility ceases at 3:15 will never be a true teacher.

Community centers. The school building should be the heart of every community. It is the most logical community center. It is the property of all the people and should be used by all the people.

Many other organizations have attempted to build up community centers. The community-church movement is admirable, but at best can only bring together those of one religious faith. The grange in the country and many like organizations in the cities attempt to bring communities together. They have done much, but only for those who choose to become members. In the public schools it is possible to bring together all people regardless of age, sex, or religious belief.

The school building should be open and busy evenings as well as during the day. Some schools have swimming pools, gymnasiums, libraries, and club rooms. These should be as free and open to the public at night as they are to the children during the day. Education is not a product but a process. Education should be a continuous process that goes on as long as life lasts. If this is true, and if the function of the school is to educate, then the school should appeal to all of the people of the community. The school should have something to offer to every man, woman, and child that will help each of them to make the most of life. The open school for everybody is the ideal toward which all teachers should strive.

School exhibits. All parents are interested in the doings of their children. A display of the work done by the children in manual training, art, domestic science, writing, etc., never fails to attract interest. Some school systems have "school fairs" where the children demonstrate work of all kinds. Other schools have exhibits at the county fairs held in their own town or in a neighboring town. These are of value if a large number of patrons attend the fair, and if a conspicuous place is given over to the exhibits. In some fairs the school exhibits are given a very small and inconspicuous place. It is better to have no display than to have one that compares unfavorably with others. Exhibits held at the schoolhouse are of great value because they bring the parents to the schools.

In a number of schools, Evansville, Indiana, Syracuse, New York, New Trier Township High School, Kenilworth, Illinois, and others, the following scheme has been carried out with highly satisfactory results: The school program was so arranged that the morning session began at two o'clock in the afternoon and lasted until approximately dinner time; the afternoon session began at eight o'clock in the evening. Parents were urged to attend, with most gratifying results, the hours being particularly convenient for the fathers.

There is one danger in exhibits and fairs. Children should not strive consciously to prepare one good specimen of work for this purpose. The specimens shown should be selected from their regular work.

School clubs. Production clubs are of special value in school life. Most of these are run in connection with the agriculture department for the boys and the home economics department for the girls. Probably the most valuable for the boys are the clubs that work with baby beef, poultry, corn, or pigs. In each of these organizations the members do the actual work involved, acting under the advice of a county club leader, or of the agriculture teacher. Meetings are held regularly and matters pertaining to their problems are discussed. This work is of real educational value to pupils. It also interests the parents in the work of the school.

Girls are most interested in canning clubs, although many girls belong to clubs that specialize in needlework, poultry, and gardens. The girl who does a scientific piece of canning in school is not only learning something useful, but she may be the means of teaching her mother better methods of canning. It is not necessary for the teacher to know all the details of organizing and conducting these clubs. In most parts of the United States the teacher will find county club leaders who are paid to build up these organizations for the schools. If there is no leader, the teacher can get the necessary information from the State Agriculture College, or the State Department of Education.

There are also many non-productive clubs that are of value. Some are formed in connection with special subjects like art, music, or history. In addition to these there are many valuable organizations of a more general nature like debating clubs, current event clubs, literary societies, and class organizations. All such groups are of value only when they are under the very careful supervision of the teacher in charge.

Boy Scouts. From the standpoint of educational value, one of the best organizations for boys is the Boy Scouts. Dean James E. Russell, Teachers College, Columbia, has said, "I regard the Scout Movement as one of the most valuable educational agencies of this generation."

P. P. Claxton, former United States Commissioner of

Education, emphasized the educational value of the Boy Scouts, as follows:

> Years of experience and steadily increasing accomplishments have tested and demonstrated the value of the work of the Boy Scouts of America for boys of the early adolescent period covered by the junior high school, and I commend to the teachers, principals, and directors of schools of this grade their program as a most effective supplementary agency for strengthening the work of the schools.

In reporting favorably regarding the granting of a charter to the organization, the House Judiciary Committee paid this tribute to the worth of Boy Scout work:

> The Boy Scout movement is intended to supplement and enlarge established modern educational facilities in activities in the great and healthful out of doors, where may be the better developed physical strength and endurance, self-reliance, and the powers of initiative and resourcefulness, all for the purpose of establishing through the boys of today the very highest type of American citizenship.
>
> It tends to conserve the moral, intellectual, and physical life of the coming generation, and in its immediate results does much to reduce the problem of juvenile delinquency in the cities.

No young man should go into the teaching profession without knowing how to organize and conduct a Boy Scout troop. Every normal boy is fascinated by the scout program. The moral value to the boy who learns to do a good turn daily and not to accept pay for it is very great. The health and cleanliness lessons in body and mind are invaluable. Scout ideals fill the boy with the desire to be a real man. No man is more idolized by boys than a successful scoutmaster.

Scout troops should always be tied up with the schools. A church scout troop does a great work, but it brings together only boys of one religious faith. A public-school scout troop with boys of all churches belonging is more educational. Furthermore, the scout program brings the school closer to the parents. If a boy's teacher or principal is a scoutmaster and if the schoolhouse is the scout meeting place, it adds interest to the school.

Camp Fire Girls and Girl Scouts. What the Boy Scout program does for the boys, the program of the Girl Scouts and the Camp Fire Girls does for the girls. All of the claims made for the scout work for boys can as logically be made for the work of these two organizations. The teacher must see in these movements a wonderful means of getting into closer touch with the adolescent girl and her parents. The Camp Fire Girls' camps and the Girl Scout troops should be run in connection with the public schools in order to be of greatest value both to the girls and to the schools. No young woman teacher can afford to start teaching girls of this age without knowing how to organize and carry on this kind of work. The educational possibilities of these movements are very great.

School athletics. School athletics may become a great good or do a great harm to a school from the standpoint of interesting the community in the schools. School athletics have been severely criticised during the past few years. Many parents believe that they are stressed too much. When a schoolboy can talk of nothing but the team, the parents get a wrong conception of the schools. On the other hand, there is nothing easier than getting a community interested in a school team. Where everything else fails as a means of bringing parents to the schoolhouse, the basketball team will do it.

From the standpoint of physical exercise it is best to have games that all the children can play, but from the standpoint of community interest, an inter-school game is more valuable. The wise school is the one that gives every child a chance to participate in games, but at the same time has a team made up of the best to represent the school. If properly handled by a wise group of teachers school athletics will win many friends for the schools and make no enemies. Contests, particularly in the track events, even between one-room country schools, always attract interest. Games between elementary schools as well as between high schools attract a large interest in the city system, and help to build up a pride and a spirit of loyalty that are most beneficial.

School papers. If your school has a printing room, as many schools now have, the task of publishing a school paper is made easier. Where there is no printing press, children make successful papers even when they must be typed or written out with pen and ink. When the paper is typed or written out, it is necessary to have a limited edition, and the children take turns in carrying a copy home. Many schools have had great success with such a paper.

The children love to make a newspaper better than anything else. It affords almost limitless possibilities for correlation with the regular school work. The paper when made by the children should not be used as a propaganda sheet. It functions best when it is written entirely by the children and is merely a happy means of interesting the parents in the schools.

School savings. The schools took on many extra functions during the World War. Many who had not been interested in the schools suddenly became interested because of the large number of things they were doing with such great success. The school gardens, school savings, and Red Cross work were a few of the things that the schools were doing for the community. Since the war ended the schools have dropped many of the functions that they assumed at that time. One that has not been dropped entirely and should not be dropped is the school savings.

Americans are very much in need of thrift lessons. The thrift of the war period has largely passed away. Good work can be done with the children, and through the children the parents may be reached. Probably the plan for school savings is the best agency for teaching thrift. In hundreds of schools a certain part of one day each week is set aside for the purpose of banking. The children bring their money, as small an amount as they wish, and deposit it in the bank. It is not necessary for the school to be responsible for the money; it should be handled through local banks. The child learns thrift, but the school is also interested in the fact that these savings form one more connecting link, and a good one, between the schools and the parents. A certain Ohio city recently claimed 30,000 savings accounts among its 33,000 school children.

Special activities. The schools must always be ready to coöperate with other institutions of the community when it is for the good of the community. There are many special weeks set aside for various purposes that the schools can use in getting close to the community. Most sections of the country have an annual Clean-up, Paint-up Week. The schools should enter into such a week wholeheartedly. If the community wishes to clean up its dirty places and paint up its dark spots, the children must necessarily have an important part. This not only helps to teach cleanliness and sanitation to the children, but attracts favorable attention to the schools.

American Education Week is observed every year. At this time the newspapers devote much space to educational matters, and the parents are easily interested. No school should fail to take advantage of this national week, but should plan proper exercises to which the parents of the community are invited.

Music Week is being celebrated in many cities and is possible in any part of the country. During this week every effort is made to reach all members of the community with songs and instrumental music. This is a wonderful opportunity for the schools to make themselves felt.

The school orchestra, the school band, and the school choruses, which are possible even in elementary schools, not only get a valuable training for Music Week, but they help very much in interesting the public in the music work of the public schools.

Questions and Problems

1. How may compulsory attendance laws become a means for coöperation between the school and the home?

2. What is the relation of the school to the Americanization of the foreign-born?

3. How may the playground become a means of bridging the gap between the school and the home?

4. How may the school building be made the community center?

5. Give examples showing how the school and the community may be brought into closer relation by each of the following: school exhibits, school clubs, Boy Scouts, Camp Fire Girls and Girl Scouts, the Parent-Teachers Association, school athletics, the school paper, and school savings.

6. List all the special or extra-curricular activities you can in which the school may coöperate for the good of the community.

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SUMMARY OF PART ONE

Part One has been a description of the teacher from the standpoint of his efficiency, his philosophy, and his relation to the school and the community.

In Chapter I those elements that make for individual efficiency in teaching were discussed. Many studies were reviewed showing the causes of success and failure of teachers. From these studies certain elements that make for success and failure were discovered. It was shown first of all that a teacher must have personality. But this is not enough. He must also have broad scholarship and a thorough professional training. No young man or woman should hope to be successful in the schoolroom who does not possess all three. Through earnest study, careful self-analysis, and an active effort to improve, these three fundamental qualities may be made a part of any individual's equipment.

Chapter II explained how every teacher, whether he realizes it or not, has a philosophy of life, and it emphasized that, in addition, he must have a clear-cut, up-to-date, sound philosophy of education, for without this he cannot effectively select and present subject-matter. Many inadequate theories of education were explained and their fallacies pointed out. As a reasonable and sound guide for the teacher this philosophy was presented: education is life and growth, and it takes place in a social environment. It is a present activity of the child and not some far-off, future result. If the child grows and lives to the fullest today, he will, when he becomes an adult, be prepared to live to the fullest as an adult.

In Chapter III the teacher was discussed in his relation to his community. A teacher must not only have the qualities that make for success and have a right philosophy of education, but he must see his job as it is related to the people in the midst of whom he is working. He must learn that classroom work is but a part of his total function as a teacher. He must be prepared to utilize every activity of the child's life—both in school and out—toward the great end of educating the child, and he must be ready and willing to help spread the influence of the school out into every channel and corner of the community life.

Every teacher must be a leader. A teacher who cannot lead the boys and girls in his room and the parents in his community falls short of the ideal. The real teacher not only does his work well in the classroom, but he has the parents and the others living in his community as his friends and coöperators. The real school is the heart of the community. The problem of compulsory attendance and truancy is solved by a properly organized school manned by efficient teachers.

But the teacher is only one of the important factors. The child is also a major factor, and what the teacher understands concerning the child determines to a large extent his aim of education. The teacher, to be successful, must be familiar with the original nature of the child. He must also know the laws of learning and how the body should be cared for. These problems will be dealt with in Part Two.

PART TWO

THE CHILD

The Original Nature of the Child
The Laws of Learning
The Health of the Child

CHAPTER IV

THE ORIGINAL NATURE OF THE CHILD

Instincts and Capacities

Nature provides the new-born child with a great wealth of possibilities. Not only the physical body with its possibilities of growth, but the mind with its tendencies to develop in certain ways is a part of this inheritance. When the cells unite to form an individual, much of what that individual may become physically and mentally is determined. Of course, the physical and mental possibilities of no child will ever be fully realized unless they are given the proper environment and a chance to develop. All children come into the world with certain tendencies to act, think, and feel, that are common to the race. These unlearned tendencies that are common to all children are known as *instincts*. However, children differ widely in their possibilities. The original possibilities of a child that make him different from other children are known as *capacities*.

All young children are attracted by bright lights, loud noises, and sharp contrasts. These reactions, being inherited and common to the race, are instinctive. On the other hand, some children learn music readily and become musicians. Other children never succeed in music. Musical talent is inherited but not common to the race; hence it is a capacity. Capacities represent the great possibilities of children that may develop if given the opportunity. It is the purpose of this chapter to discuss instincts only, and not to go into the subject of capacities.

It is not easy to determine which activities are inborn and which are acquired, because the learning process begins at a very early age. This is one of the reasons why it is difficult to compile a list of the instincts of children. Many psychologists have made such lists. However, no two of these lists agree. Besides the difficulty of determining which acts are instinctive, we find it very difficult to name the activity in a manner satisfactory to all, even though we are sure it is instinctive. The difficulty of comparing lists made by different psychologists is largely due to inability to agree on terminology.

In the following explanation of a few of the most important instincts no attempt is made to give them in the order of importance.

The Important Instincts

Sensitivity. Children are sensitive to many elements in their environment. This means that certain physical conditions surrounding them make an impression on their consciousness. All normal children are sensitive to the light waves that enter the eye and stimulate the sense of sight. They are also sensitive to certain air waves that cause the sensation of sound when entering the ear. They are sensitive to a certain range of temperature, to pressures on the skin, to pain, smells, tastes, and various other elements. This instinct of sensitivity is basic to all life and learning.

Attention. Children are so constituted that they instinctively give attention to bright objects, sharp noises, pain, human faces, moving objects, and anything that involves a sharp contrast, like cold after heat. There are many sensory things that children are not attentive to, as small changes in temperature, the gradual intrusion of a new smell into an atmosphere, or the gradual change of any external condition that is stimulating the sense organs. The more gradual the change the less apt the stimulus is to attract the attention of the child.

By means of a knowledge of these facts, the teacher is aided in getting the attention of a child. But it is much more important for the teacher to be able to hold the attention after it has been secured.

Gross bodily control. Thorndike lists the following as bodily activities which he believes to be instinctive: "Sitting, standing, walking, running, stooping, jumping up, jumping down, leaping at, crouching, lying down, rolling over, climbing, dodging, stooping to pick up, raising oneself again, balancing, clinging, pushing with arms and with legs, pulling with arms."[1]

There has been some question as to just how far the gross bodily activities are instinctive, but for our purpose we will assume that these bodily activities which are common to primates in general, as well as to man, are instinctive. It is best for the teacher thus to assume them, and to act accordingly. If they are instinctive the teacher must so make his program and so plan his day as to give the children a chance to give these natural tendencies a chance to come into play. The old-fashioned school, where silence and quietness were the most sought for virtues, violated this basic principle, which demands that children be given an opportunity to exercise these instinctive desires.

Manipulation. The term manipulation designates the instinctive behavior that is sometimes described as construction and destruction. Manipulation of things, whether it is a matter of building or tearing down, is instinctive to every child. This instinct can be of great value to the child as well as to the teacher if properly directed. When the child has some real manipulating to do, it is not necessary for him to tear down in mere destructiveness. The provision of materials in the lower grade rooms and of tools in the upper grades gives a child a chance to develop this very important asset.

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[1] *Educational Psychology*, Vol. 1, page 47.

Fear. There is also a group of instincts intimately associated with fear. It is impossible to say that fear is instinctive, because there are as many fears as there are conditions that produce fear. The fear of a snake is not the same as the fear of thunder. It is necessary, then, to list the external forces that are associated with fear. Thorndike says: "On the whole it seems likely that an unlearned tendency exists to respond by the physical and mental condition known as fear to the situations, 'thunderstorm,' 'reptiles,' 'large animals approaching one,' 'certain vermin,' 'darkness,' and 'strange persons of unfriendly mien.' "[1] It is also probable that there are other conditions that awaken fear in the same manner. It is very unwise for teachers to attempt to control children through the knowledge of their instinctive fears. It is the teacher's function to attempt to do away with these fears, or modify the resultant activity.

Fighting and anger. There is no one specific instinct that leads to fighting and another that leads to anger. Many situations instinctively lead to anger. There are as many different angers as there are situations leading to anger.

In general it may be said that the situations that lead to anger and fighting in a child most often are those that are connected with instinctive desires that are thwarted. If a child is kept from having something that he desires,

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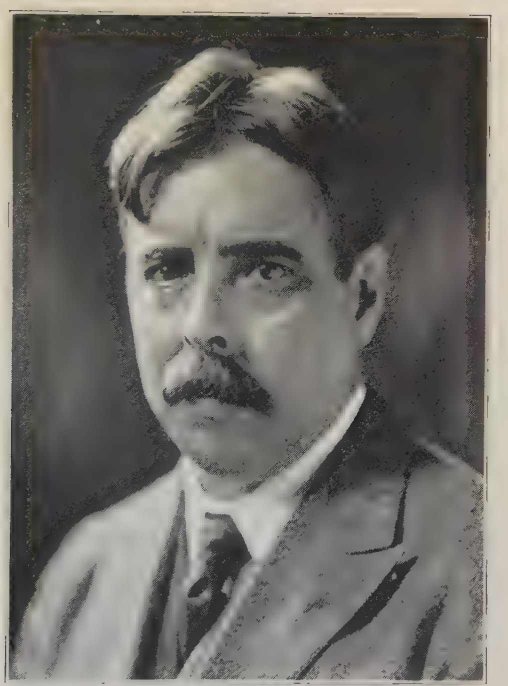
[1] *Educational Psychology*, Vol. I, page 63.



EDWARD LEE THORNDIKE

Edward Lee Thorndike has made his greatest contribution in scientific research. His work in this field has greatly influenced our present method and practice in elementary and secondary education. He has done more than anyone else to bring education out of the realm of opinion and guesswork and place it upon a sound scientific basis.

he naturally responds with angry and pugnacious behavior. Holding a child back when he wants to go ahead, holding the hands when he desires to strike, putting a desired article beyond reach, are all situations that are responded to by a child by fighting against the person responsible for the condition. From the standpoint of teaching, it is not best deliberately to produce angry behavior in a child. No good can come from such a procedure, and it will tend to develop anger and fighting as mental habits. If situations are never produced that will cause angry or pugnacious responses, the instinctive basis for them will become weak through disuse.

THE FOOD-GETTING AND HABITATION INSTINCTS

It is impossible to say that there is a single instinct of food-getting and another of habitation. Under this general head will be grouped that large number of instincts that contribute as an end to food-getting and habitation.

Eating. Eating is made up of a large number of instinctive acts. The first eating activities of the small baby are instinctive. The seeking of the breast, the sucking movement of the parts of the mouth, the withdrawal when satisfied, and the expulsion of bad tasting material, are all unlearned activities of the child. Reaching, grasping, and putting into the mouth form a series of instinctive acts, all of which are closely allied with this general activity which we call eating.

Acquisition and possession. Any object that attracts the attention of the child and that does not repel him by any frightful appearance and is not too large for him to handle awakens in the child an instinctive desire for acquisition and possession. If someone else, particularly another child, is already possessing and enjoying the object, the desire for its acquisition and possession becomes much greater. Furthermore, the attempts to keep the object away from the child awake a dissatisfaction that is satisfied only by acquisition. When the desired object is obtained by pursuit, by taking it away from someone else, or by some other method, the desire may pass away. A child will often strive against great difficulties to obtain a thing, only to cast it away as soon as the difficulties are overcome. In this case the instinct to be satisfied is acquisition and not possession. It is the getting of the thing and not the thing itself that satisfies the instinctive desire of the child. In the case of possession, the instinct is most active when the object in question is desired by someone else. When one attempts to take an object away from a child, the action that satisfies the instinctive desire of the child is the grasping, holding, and if necessary, fighting to keep possession.

Collecting and hoarding. These instincts are closely related to acquisition and possession. As in the previous discussion, the objects must be those that attract attention, and they must also be small enough to carry away. A child will respond to such objects by carrying them away and hoarding them. In acquisition and possession the instinctive basis was in the getting of the object and the holding of it against opposition. In collecting and hoarding the interest is in keeping the objects, and the satisfaction comes from gloating over them, rearranging them, and adding to the collection. The contents of the schoolboy's pocket provide an excellent example. It is very rare to find a normal child who is not making a collection of postage stamps, tags, pictures, bugs, or something else. This instinct oftentimes confuses the untrained teacher. Sometimes the charge of stealing is brought against a child who is only satisfying his native desire to collect. The wise teacher makes this instinct a great positive good. Nature study and many other classes may give opportunity for the children to make collections of real positive value. If the instinct for collecting and hoarding is satisfied in legitimate ways, there will be very little danger of children collecting things that will annoy the teacher or endanger their position in society.

Hunting. The hunting instinct has always been strong in our ancestors. At first it was a means of food-getting, and became active only when man needed food.

At the present time it is not employed as a means of food-getting, but is classed with the food-getting instincts because it has in the past been developed through them. We no longer chase game when we are hungry and pounce upon and kill it when we have succeeded in catching it. Even though we do not do this, we still have a great natural joy and satisfaction in catching animals, including men, that are fleeing from us. Much of this type of activity can be seen in men who tramp all day after game for the satisfaction of killing some little rabbit or bird or catching a fish. The great satisfaction is not in the rabbit, the bird, or the fish; it is the process of getting them which satisfies a native impulse. In the schools of the past when there was no directed physical activity, a great amount of activity based on this instinct was in evidence. In a more advanced form we find it in many of the playground games of today where the game is based on pursuit and the victory is won when the other child is caught. Well planned games of this type are valuable in school play because the teacher is working with nature and not against it.

Habitation. It has been shown that there are a large number of instincts that are grouped about food-getting. In the same manner there are many instincts that are related to habitation. Man, apart from training, responds with discomfort to being shut up in a small inclosure, especially if it is a strange one. A child, finding himself in such surroundings, responds by pulling, pushing, kicking, and in the case of a young child, crying and screaming. This is the instinctive basis of the punishment that is applied when children are put into closets or such places of confinement. Many teachers use such punishment, thinking that the basis of it is that the child is kept from being one of the group and will reform in order to become a member again in good standing. Keeping a child away from the group may be a good form of punishment, but appealing to the instinctive fear of confinement is not good.

THE SOCIAL INSTINCTS

Children are social creatures. Most of an individual's life is spent in the presence of others. Practically all learning takes place in the presence of others, either of other children or of adults. The most important instincts in education are those that are social, and the schools of today furnish a social atmosphere in which children may develop. There are a great many social instincts. For the purposes of this chapter mention will be made only of those that are of greatest value in education.

Gregariousness. Children, as well as adults, prefer to be with others of their own kind and are unhappy when alone. Among adults this desire to be with others is evidenced on every side. It is back of the desire to live in cities, to worship in groups, and to do as many things together as possible. In the school, gregariousness forms the instinctive basis of the social group which is so essential in modern education. It also furnishes an excellent instinctive basis for punishment. If a child is punished by being put out of the group for a time, the punishment is usually very effective. Of course, it must be taken for granted that the group from which the child is excluded is a real social group that is meeting the child's desire for association with others.

Attention-getting. In the presence of other human beings who do not frighten one, it seems quite natural to try to attract attention. Human beings do not like to go unnoticed by their fellowmen. This is especially true of children. This desire to attract the attention of the teacher or of fellow students can be used to good advantage by the teacher who is skillful in management.

Mastery and submission. These two tendencies have a close relationship to each other. It is native to assert mastery, and also to submit to mastery. Both the mastery and the submission when thus native bring satisfaction. It seems that the relationship between two individuals is a continuous interchange of mastery and submission. When a child comes in contact with another child who does not notice him, there is usually an attempt at mastery. This may continue until the other child submits or until the other child, having assumed the attitude of mastery himself, starts a conflict. The mastery over another, or the protection of the weak, a form this instinct sometimes takes, is satisfying to the child. This instinctive interplay of mastery and submission and the resultant pleasure that comes can be of great value to a teacher in developing leaders and followers for work units in her school. It is unwise to try to kill it off by punishment.

Display and shyness. These two types of behavior are very closely related to mastery and submission. Display perhaps is, naturally, about the same as mastery, without its cruder physical movements. The showing-off of children is in the spirit of mastery over those children or adults for whom the show is given. The resultant satisfaction of having a good audience is probably the same satisfaction that comes from having someone submit to mastery.

Shyness, with its resultant hesitation, seems to be on the border of submission. The child does not seem to know whether to go to the stranger or run away. In other words, he does not know whether to submit to mastery or run away from it.

Rivalry. When a child is engaged in an activity, he naturally does better work if there are other children working at the same task. If he can do the best work, there is a resulting satisfaction. It is probable that any sort of work is done with more interest and better results if it is done in the presence of others, particularly if they are engaged in like work. These native tendencies are of great value in education. Tasks otherwise dull take on the thrill of conquest when the element of rivalry is present.

Like many other good things rivalry also has its dangers. If a teacher depends upon these tendencies to accomplish his work, he may teach many things that are of no real value. A child will do anything within reason for the sake of rivalry. It is better to have a real interest in the task at hand than merely an interest in excelling another. It is better to learn the multiplication combinations in order to work arithmetic problems than to learn them in order to excel the others in the class. However, a wise teacher makes a combination of both. A task may be done for its own sake and still be done better because of others working on the same task.

Envy and jealousy. The actions of envy and jealousy are very closely related to rivalry. In rivalry the child attempts to do better than another. In envious behavior the child expresses annoyance when he sees another receiving attention or success that he might have had for himself. Jealousy is often the result of unsuccessful rivalry. While rivalry is to be encouraged as a teaching device in school, jealousy should not be made use of. One of the best means of doing away with much of jealousy and of making good use of rivalry is to introduce group rivalry instead of matching child against child. Group against group will make good use of emulation without the bad effects of jealousy.

Kindliness. The common idea that children are naturally cruel to each other and that they have no native goodness is far from being true. It is instinctive to be kind to those in need of help. People who are sick, hungry, or in trouble get sympathy and help from children. This is one of the finest of the native impulses of children and should have a chance to come into play whenever possible. The teacher should seize every possible opportunity to allow her children to give to the poor, to comfort those in trouble, or in any other manner to use their natural tendency to be kind.

Bullying. The greatest natural tendency that is contrary to kindliness is bullying. It seems to be natural for some children to bully and torment others. The presence of weakness or sickness may bring forth kindly behavior, but the presence of other children in competition often produces bullying. This instinct is probably due to a combination of several that have been mentioned previously. Teasing is oftentimes closely related to bullying. In fact, this type of activity often starts in teasing and develops later into bullying. Whatever the cause or instinctive background, it is a very active type of behavior. A skillful teacher helps the child in his later life by removing him from the subjects that he may bully and by turning the excess energy into more useful channels.

Athletic games where a child plays as a part of a team are an excellent cure.

The above mentioned are the most important of the social instincts. They play a prominent part in modern education, and every teacher should learn how to deal with them.

THE USE OF INSTINCTS

If instincts are made use of and if the result is satisfying to the child, a habit is formed which will probably last through life. If the activity which results from an instinct is unsatisfactory or painful to the child, the activity will not be repeated and the instinctive action will eventually die out. If no situation ever arises that calls forth the action of an instinct, the instinct will die out through disuse. These, then, are the three main results that may come from instincts: (1) They may be developed into habits; (2) they may die out through resulting dissatisfaction; or (3) they may die out through disuse.

One other possible result should be mentioned. Substitution of a desired end may be made. If an instinct is leading to bad results, its value may be saved by substituting other situations. A child with a pugnacious instinct may be developing into a trouble-maker. The teacher who gives the child a legitimate avenue through which to exercise the instinct, like basketball or boxing, may save the dynamic power of the natural act without its bad results. Thorndike says:

> It is a just principle of education to utilize any individual's original nature as a means of changing him for the better, to produce in him the information, habits, powers, interests, and ideals which are desirable. . . . The behavior of man in the family, in business, in the state, in religion, and in every other

affair of life is rooted in his unlearned, original equipment of instincts and capacities. All schemes of improving life must take account of man's original nature, and most of all when their aim is to reverse or counteract it.[1]

Questions and Problems

1. Make a distinction between instincts and capacities; give three examples to illustrate each.
2. Why is it important that the teacher understand the instinct of sensitivity?
3. How will the teacher who understands gross bodily control be helped in making up a school program?
4. In what ways may the original tendencies of a child for collecting and hoarding confuse the untrained teacher?
5. How may the teacher make the instinct of collecting and hoarding a great positive good?
6. What good may the teacher make from a knowledge of the following instinctive tendencies: hunting, habitation, and fear?
7. How may the teacher make use of the gregarious instinct in disciplining her pupils?
8. Why is it unwise for the teacher to kill off by punishment the instinct of mastery and submission?
9. How may the value of an instinct that is leading to bad results be saved without developing the bad results?
10. What are the three main results that may come from instincts?

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CHAPTER V

THE LAWS OF LEARNING

All nature is governed by laws. Plants and animals are created, live, function, and die in accordance with the laws of nature. Nothing "just happens." Learning, whether it is the learning of an animal or a human being, goes on in accordance with the laws of life. An animal trainer in order to be successful in his work must understand the laws of animal learning. If he works in violation of these laws, he finds it impossible to accomplish his purpose. The reason most of us cannot teach an animal to do circus tricks is that we do not understand the laws of animal learning. It is necessary to know the effect of punishment, food, kind words, and other factors, in order to teach an animal. It is essential to know the effect of seasons, sunlight, moisture, and soil on a plant in order to have success in cultivating it. In the same manner it is necessary to know the basic laws of child learning in order to be successful in teaching a child. Many of us who are now adults went to school to teachers who were ignorant of these laws of learning. As a result we have many bad intellectual habits and many deficiencies that trained teachers would have prevented.

The Brain and the Nervous System

In order to understand the laws of learning it is necessary to know something about the brain and the nervous system. There is close relationship between mental action and the activity of the brain and the nervous system.

The brain and the nervous system are made up of nerve cells that are called neurones. These cells are long and fiber-like and can be seen only with the aid of a microscope. A cross section of a nerve will show that it is made up of a great many of these fibers much as a telephone cable is made up of a large number of separate wires. The brain is made up of millions of these neurones. To carry the telephone analogy a step further, the brain is analogous to "central." The nerves carry messages to and from the brain, and the brain makes the necessary connection. You see a coin and pick it up. From the nerve standpoint a message traveled from the eye to the brain. The brain made the necessary connection and the hand reached for the coin.

Neurones have three important properties: (1) sensitivity, (2) conductivity, and (3) modifiability. By sensitivity is meant that neurones are sensitive to certain elements in their environment. The neurones that have their ending in the retina of the eye are sensitive to the ether waves that cause the individual to have the sensation of light. The neurones that end in the inner ear are sensitive to certain air waves that are known to us as sound. In a similar manner all of the nerve endings of the sense organs are sensitive to certain stimuli.

By conductivity is meant that neurones are capable of transmitting messages from one part of the nervous system to another. When the sensitive nerve endings in the retina of the eye are stimulated, the neurones transmit this message to the brain and we have a sensation of light. We hear sounds because the neurones that have their endings in the ears transmit messages to the brain. A man sees that a fence is about to fall down and steps back to avoid being hurt. From the standpoint of this discussion it is possible to say that the neurones that end

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in the eye were stimulated and the optic nerve transmitted the message to the brain. At this point the man comprehended the situation and another message was sent over neurones to the muscles and the result was that the man moved.

By modifiability is meant that the connections between neurones are subject to modification and change. In the preceding chapter on instincts it was noted that man comes into the world with a great many inborn tendencies. From the standpoint of neurones it may be said that he comes into the world with a great many neurone connections and tendencies to connection. When you enter a bright room from a dark room the pupils of the eyes contract. This activity was never learned. It means that you came into the world with the necessary neurone connections so that the stimulation of bright light brought the contraction of the muscles that control the size of the pupil. When a very young child is hungry, the necessary sucking motions are made because the necessary connections between neurones are present in the brain. When a child first sees something bright, he reaches for it. This is a tendency to connection among neurones. The example will also illustrate modifiability. If the connection results in pain to the child, the next time he sees a bright light he will not reach for it.

All learning is based on these three properties of neurones. Nothing new can be learned without sensitivity. No messages can reach the brain without the necessary conductivity, and no learning based on experience is possible without modifiability.

It is the purpose of this chapter to give some of the important laws of learning. The list is not to be considered complete, but the most fundamental laws are given and illustrated.

The Important Laws of Learning

The law of multiple response. The law of multiple response is applicable to animal as well as to human learning. If a chicken is confined within a pen, is hungry, and can see food without, it will make many responses to the situation. It may poke its head through the small holes in the fence, it may fly against the fence, and in various other ways respond to the situation.

In child learning, multiple response is very common. It is true that some responses are determined by brain connections that are present at birth. Others are easily made because there is a limited number. However, in case there are a great many possible responses, multiple response will come into play.

In pronouncing the words of a foreign language a child may attempt a dozen different types of pronunciation before he finds the one that is satisfactory. In a like manner he may try a great many responses to other situations. This tendency to try a large number until one is found that is satisfactory is a basic law of child learning. If a child did not tend to make different responses, then the law of exercise and the law of effect, a discussion of which follows, could not function.

The law of effect. A child tends to do over again that thing that has resulted in or has been accompanied by satisfaction. In terms of neurones the law means that when neurone connections are made and the result is pleasing to the individual, that neurone connection is made over again when the same stimulus comes. The converse of this law is that a child tends to avoid that thing that has resulted in or has been accompanied by pain, displeasure, or dissatisfaction. Reducing this again to the terms of neurones, we say that when a neurone connection is made in the brain and the result to the individual is unsatisfactory or painful, the neurones tend to avoid making that connection again.

This law is a fundamental law in mental life. Its working is made possible through the modifiability of the neurones. A child puts a stick of candy into his mouth and the result is satisfying. Very soon this child is putting everything that looks like candy into his mouth. If a child sees a cat, pulls its tail and gets scratched, he will tend not to do it again. If he does try it again with the same annoying result, he is almost certain to discontinue the activity.

Satisfiers and annoyers are great educators. This law seems to be so reasonable and so common that anyone would be aware of it even if he had not studied psychology. However, an examination of the teaching of the past shows that teachers have almost entirely ignored it. If a teacher took advantage of the law of effect, he would see to it that effective work and satisfying situations were connected. Yet the converse of this has been too often true.

It has been common in the past for teachers to keep children after school as a punishment. The teacher who does this ignores the law of effect, because he has deliberately made school work an annoyer. It would be much more sensible to send the bad boy home early, and give the good child the privilege of remaining in school until the end of the day. This has been very successfully tried in many modern schools. If you wish children to love school, the school work must always be a joy and never used as a punishment. The teacher who makes a boy learn poetry as a punishment for being bad also violates the law of effect. The schools should teach boys and girls to love good poetry. Yet when poetry is used as a punishment, it becomes an annoying situation, and oftentimes the love of poetry is completely killed. It is not uncommon to meet adults today who very heartily dislike poetry because they were made to memorize verse upon verse of it as a punishment when they went to school.

The connection of satisfaction and good situations does not mean that the teacher should give prizes for good work. The natural results of a well done piece of work should be satisfying, and the situation should be so arranged that the natural results of a poor piece of work would be annoying.

The law of exercise. The oftener a child does a certain thing in response to a certain situation the more likely he is to make the same response in the future. In other words, the doing of a thing many times tends to make it a permanent habit. From the standpoint of neurones it means that when a neurone connection has been made a large number of times, that connection tends to become permanent. If a child spelled "until" with two "l's" for a hundred times, it would be very hard to get him to spell it as it should be spelled. If a child is always made to think of 4 when he sees 2 x 2, this will soon become a permanent connection.

The converse of this law is often called the law of disuse. By disuse we mean that when a neurone connection is not used, the tendency is for the connection to weaken and fall away. For example, a child may learn to spell a word correctly. He may spell it correctly a hundred times at the beginning of the year. If he has no further use for that word and does not spell it again for six months, the connections that were made in the brain will have weakened so that he will find it necessary to learn to spell the word again. We usually refer to this as deterioration by disuse.

This law gives us many hints for the teaching of written work, like spelling. When a word is learned once, it must be recalled at frequent intervals in order to keep the connection intact. The same thing is true of everything that is learned by repetition.

An interesting violation of this law occurs when the teacher keeps untrue solutions before children. The teacher who writes 2 x 2 = 6 on the blackboard and asks the children to correct it is violating this law. 2 x 2 = 6 is a wrong neurone connection. We wish to have a child so trained that every time he sees 2 x 2 he will think of nothing but 4. The teacher who deliberately puts 6 as an answer to 2 x 2 confuses the neurone connections. The teaching of English by having children correct errors in written material or conversation is also a violation of this law.

The law of exercise and the law of effect are the basis of all drill work in the schools. Two things are necessary in any good drill lesson: (1) correct neurone connection must be made, and (2) the correct connection should result in satisfaction to the child. If you wish children to learn all of the multiplication and addition combinations, it is necessary to present these combinations many times and have them correctly repeated or written by the child, and the result to the child must be satisfying. Practice in correct writing is another example of the law of exercise, the vital point being that the correct connection should always be made.

The law of analogy. When a child meets a new situation and has no special instincts or habits to determine the response, he responds as he has responded in the past to a like situation. This is the law of analogy.

The servant who threw water on Sir Walter Raleigh when he first saw him smoking was reasoning by analogy. It was a new situation to the servant. In the past when he had seen smoke about a person it meant that the person's clothing was afire. Hence the water was thrown to put the fire out. The man who drank from his finger bowl was meeting a new situation by analogy. He was seated at a dinner table. A dish of water was placed before him. In his past experience a dish of water before him at a dinner table meant something to drink. So he drank. A young child who has eaten colored sticks of candy may put a colored stick or even a striped worm into his mouth.

In all of the above cases a new situation has been met by a response based on a like situation. In all of these situations the solution has been faulty. This must not be taken to mean that all analogous solutions are faulty. In school work correct analogous solutions are very common, and much value may be obtained through their use. A child may be led to pronounce correctly a new word through its relationship to a known word. If a child can pronounce "cat" he may, through the relationship, correctly pronounce "mat." A child may often get the correct meaning of a new word through its relationship to one or more known words. Many arithmetic problems may be solved correctly by relating them to known methods of solution. In geography the occupation of a certain people may be arrived at through the relationship of this country to another.

Teachers should make constant use of this type of learning. Many new situations may be solved by the children when the teacher takes the time to point out analogous situations. Children should be taught that solutions of this kind are an aid to learning, but that the solution should be carefully verified.

The law of mind set. The response that a child gives to any situation depends upon the general set of that child's mind. A stimulus does not always produce the same response in the same person. Ask a little girl this question, "Do you like to play?" The response will depend upon the general set of the mind at the time the question is asked. If she is seated at the piano, she will give it one interpretation; if she is playing with her dolls, she will give it another. In a discussion of a recent article with a group of students another example of mind set was found. The article in question was by James Harvey Robinson and concerned the greatest men in America. Dewey was named as one of the group. When this name was given, some members of the group thought of Admiral Dewey, and others of John Dewey, the philosopher. The difference was a difference of mind set.

There are several laws that are closely related to the general principle of mind set. The law of relativity is one of them. According to this law any stimulus will be interpreted not by itself alone, but in its relationship to other stimuli that may accompany or precede it. Sour after sweet is not the same as sour after bitter. A merchant in selling damaged goods after a fire made use of this law by displaying the blackened goods on a black background. If displayed on a white background they would have looked much more soiled. Diminishing returns is another related law. The same stimulus will produce a more intense result when added to a weak stimulus than when added to a strong one. Hence an ounce added to a pound may not be noticed, but an ounce added to an ounce is noticed at once. A short line added to a long one will not be perceived by the eye, but if added to a short line it is noticed at once.

Teachers who do not know these laws often misinterpret children. A question may be asked by a teacher having one set of the mind and be answered by a child having another. This type of answer always confuses.

Mind set also explains in part why it is hard for some children to understand a question when other children have no trouble. It also explains the misinterpretation of examination questions. Teachers must also be familiar with relativity and diminishing returns in order so to arrange situations for the children that they will get the best stimuli. The order in which material is presented should always be determined on the basis of these laws.

The law of analysis. Thorndike says, "It thus seems to be a general law of mind that any element of mental life which is felt as a part of many total mental states differing in all else save its presence comes thereby to be felt as an idea by itself."[1]

Learning through analysis is a higher type of learning than any other yet referred to. When we are making use of the laws of exercise and effect we are learning directly through simple associations. In analysis we have much more complicated learning. If you wish to teach a child the meaning of the word "perpendicular," you may do it by analysis. If a child is shown some perpendicular object, he may through simple association think that the word "perpendicular" refers to the object. In order to overcome this difficulty we teach such a fact through analysis. By using as examples a perpendicular wall, a pencil held in a perpendicular position, a string with a weight fastened on it, and many other situations differing in all else save the perpendicular element, we may get the child to understand what we mean by perpendicular. When these different situations are presented to the child, it is necessary for him to compare them and to see that they are alike in one particular. When he sees this likeness through all of them, the teacher should immediately supply the new word, which is the word "perpendicular." All ideas such as these must be taught through a process of analysis.

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[1] *Elements of Psychology*, page 217.

Furthermore, many subjects can be better taught by analysis than by the common means of association. An example of this is teaching the pronunciation of short "e." A teacher may mark short "e" and pronounce it for the child and have it pronounced several times and have the child learn it through the law of exercise. However, the child is made much more independent if the sound is taught through analysis. The child is already familiar with a large number of words containing the short "e." If these words are placed on the blackboard and the child notices that they differ in all else save the presence of an "e" that is sounded in the same way, it will be possible for him to abstract from all of these situations this single element which will be the correct sound for short "e." If he is taught to pronounce in this manner, it will be much easier for him to handle these situations independently later on.

Probably the best example of teaching through analysis is teaching the meaning of numbers. Take for example the teaching of the meaning of the number "4." A child probably learns first of all the word "four" in connection with the counting of his fingers. Most parents teach children to count in this manner. If he begins counting with his little finger, then "four" becomes the name of the fourth finger. There is no idea of number in this. A child probably will pass from this stage to the counting stage where he starts with one and counts to a hundred. He may still have no number sense. Four here will mean that word which comes between three and five in a list of associations. When a child starts to count and is stopped, it is necessary for him to start over again in order to get his association straight. The word "four" may be written on the board, or the figure "4" may be placed on the board and the child told that this is four. However, he may even recognize the word and the symbol without having any idea of what is meant by four.

To teach the "fourness" of this number it is necessary to teach it through analysis. If a child is presented with four chalk marks on the board, four pencils, four windows on the side of the room, four classmates, four sounds produced by tapping, and asked to find the common element, he will probably for the first time get the "fourness" of four. This is a case where a child has come in contact with a large number of total situations differing in all else save the presence of a common element. He tends to feel this common element as an idea by itself.

The laws which have been given in this chapter are the most common laws of learning. A teacher who masters these laws and makes use of them will do much better teaching than the one who is ignorant of their existence. It is well to remember that all learning takes place in accordance with these laws.

Questions and Problems

1. Explain the three important functions of neurones.
2. Give an example from some school subject to illustrate the law of multiple responses.
3. What is the relation of the law of effect to modifiability?
4. Show how a teacher may connect effective work with satisfying situations.
5. Why is it wrong to give prizes in school?
6. Explain why school work should never be used as a punishment.
7. Explain the law of exercise, and give illustrations to show uses a teacher may make of this law.
8. How may the law of analogy be used in classroom practice? What caution should be remembered in using this law?

9. Why should the teacher be familiar with the laws of mind-set, relativity, and diminishing returns?

10. Give an example illustrating teaching by analysis.

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CHAPTER VI

THE HEALTH OF THE CHILD

The Teacher and the Child's Health

It has been noted in a previous chapter that education is not a mere matter of gaining knowledge. Education is a matter of life and growth. With this idea of education in mind, the health of the school child becomes of great importance. It is impossible to conceive of life and growth apart from health and bodily vigor. The individual who loses his health while getting an "Education" does not have the kind of education referred to in this book. It may be possible to gain a vast amount of knowledge, and perhaps to learn a trade, at the sacrifice of health, but a person may have both of these and still miss the fundamentals of an education.

A school system is responsible for the health of the children in its care. The teacher who spends his time teaching subject-matter and neglects posture, cleanliness, care of teeth, and other health elements in his school is not doing his work well. It is no longer possible for him to side-step the question by saying, "I am hired to teach children to add, subtract, read, sing, and do other things prescribed in the course of study. I am not responsible for the condition of the body." Whether or not a teacher is conscious of the fact, he is responsible for the life of the children in his care. A child may get through life if he does not know all of the facts of history and geography, or if he cannot do all of the arithmetic problems in the course of study. But a child cannot get the most out of life if his body has been allowed to deteriorate and wear away through carelessness or ignorance.

There are also many teachers who believe that the health of the body is something for the parents to care for. But many parents are not able to detect the beginning of disease as well as a trained teacher or a school nurse, and a teacher has a better opportunity to teach correct posture and other health habits.

The teacher must instruct the children in the care of the body in the health and hygiene classes. If he wishes to teach children how to be clean and why they should be clean, he cannot be sure he has done so until the children *are* clean. Doing is the only adequate test of *knowing* in such matters. The schools of a generation ago attempted to teach health by the *knowing* method and failed. Every child was required to learn pages of things he should do, but he did not do them. The children could write on a final examination that it was necessary to wash the teeth after each meal and at bedtime, but few of them did it. Today in health classes the children not only learn what they *should* do, but they learn to *do* the right thing. In the old school the children, because of their knowledge, could pass an examination on how to keep well. In the new school the children, through correct health habits, can pass a physical examination and *do* keep well. A teacher who understands this difference will never excuse himself and say that the child's health is a matter for the parents to deal with.

THE TEACHER'S HEALTH

If a teacher is to show a child how to live a healthy life, he must be healthy himself. He cannot say, "Do this and you will be healthy" when he himself does not do it and is not healthy. School officers are demanding healthy teachers. At the present time it is impossible for a teacher to get a permanent position in a good school system unless he can pass a stringent health examination. If education is a matter of life and growth, then the teacher must be a growing teacher and one full of life and vigor. When education was conceived of as a matter of knowledge-getting, the health of the teacher was not so vital a point. Today no young man or woman should plan to enter teaching unless gifted with a clear mind, and possessed of a strong, healthy body.

Public School Health Departments

In recent years practically all city school systems have established health departments. These departments differ in their duties and responsibilities. Some function only when an epidemic has broken out in the schools. Others are active every day of the year, and prevention of disease is their chief business.

Without doubt the poorest type of health work in the city schools is to be found in those cities where the work of the health department is restricted to dealing with contagious diseases. In most cities where this is true the school health department is controlled by the municipal health officer. If scarlet fever, smallpox, or some other contagious disease breaks out in the community, the health department immediately becomes active. Schools are closed if necessary, homes are quarantined, and all necessary precautions are taken to prevent the spread of the disease. When the epidemic has been stamped out and the children have returned to school, the organization ceases to function. Such a department may do good work in times of epidemic, but it is valueless in the ordinary health work of the schools. Much can and should be done in the prevention of disease and the care of the body that such an organization cannot do.

A type of health work that is superior to that described above is known as medical inspection. A medical inspection department not only functions in case of contagion, but carries on a continuous inspection program in the schools. Every child in school is examined by a physician once each year. Following these examinations, reports are made to the parents calling attention to all physical defects and tendencies to disease that should be corrected. In many cases this work prevents diseases, instead of treating them after they have started. But its great weakness lies in the fact that it stops with inspection and report. If a child is found who needs medical attention, a note is sent to the parents, and the matter ends as far as the school department is concerned. When one considers the large number of homes in which the parents are careless or in which they do not have the funds for proper medical service, it is evident that inspection alone falls short. Furthermore, it is impossible to detect some diseases when a child is examined but once a year.

A third type of health work in the schools, which is better than either of those noted above, is that in which the needy cases are given the necessary medical attention. When dental work in the schools is on the inspectional basis, it is necessary only to report to the parents the condition of the teeth of the children. Under the better system it is possible, with the consent of the parents, to correct the defects. When a child is found with a physical defect or a disease, the case is followed with great care until the condition has been relieved. Some opposition has arisen to giving medical aid to children in the schools. Most of this opposition comes from people who do not believe in health work of any kind in the schools. However, if children are to live natural, healthy lives, the school system must take every precaution to protect them when well and bring them back to health when sick.

Probably the best health department for a city school system is the one which not only inspects and prescribes, but which assumes large responsibilities for the health of the children. A physician to direct the work, and a group of physicians to examine and treat the children, are requisites. In addition to this, it is necessary to have a corps of trained nurses. The nurses spend their time going from school to school, keeping a daily check on the condition of the children. If children are carefully examined once a year by a physician and special cases noted and put under control, it is possible for a trained nurse to check up on the condition of the children day by day. A nurse entering a school can detect the children who have contagious diseases or who are beginning to develop the symptoms of a contagious disease. A slight rash which may mean nothing to the ordinary teacher or parent may mean to a trained nurse the coming of an infectious disease.

Thus, the ideal situation in a school system is to have a sufficient number of doctors and nurses so that the health of every child may be safeguarded every day. It is not possible in some schools to have the necessary doctors and nurses for this work. However, even in the rural schools of some sections the school nurse travels from school to school and takes care of the health of the children. Teachers who are compelled to serve in schools where there is no health service and no nurses must be even more alert than those in schools with proper health supervision, because the health of the children depends upon the teacher alone.

The Child's Health

In a book of this nature it is of course impossible to give detailed information concerning matters of health. However, attention will be called to several of the important problems in the field of health, problems which have a profound effect upon the degree of success the teacher may have in his work of turning out well developed, intelligent human beings, good citizens of the Republic. A child cannot do good school work when he is suffering from poor health.

Seeing. The children of today use their eyes much more than did the children of the last generation. Library books are available for practically all of them. Moving pictures have imposed an unusual burden on the eyes. This added strain often results in more or less serious defects. A teacher may see that some children are suffering from eye trouble by observing their work in the schoolroom. Obvious squinting while reading an ordinary book, and the inability to see the blackboard are common symptoms. However, the teacher should have a more accurate method of determining how well his pupils can see. A chart for testing eyes may be obtained from the state department of health or may be borrowed from a physician. With such a chart it takes but a few minutes to determine the condition of the eyes of the children in the room. Having discovered which children have poor eyes, the teacher should immediately report the matter to the parents and do his best to get the eyes taken care of and glasses furnished if necessary. The teacher should also seat the children so that each is given the best location possible for the condition of his eyes.

It is a very common experience to find children who are retarded in their school work because of poor vision.

The removal of a bad school condition or the supplying of glasses may often overcome retardation; but the teacher should also always see that the physical conditions of the room are as good as they can be made. Children should not be required to work in a direct light. If a teacher finds it necessary to use such a room, he should be careful that the shades are correctly placed. If the children must face windows the light should be shut off with shades. Light that comes from one side should be supplied in abundance. It is a common experience for a principal to go into a teacher's room and find window shades that should be up, lowered half way to the bottom. A teacher often lowers shades in the morning to keep out sunlight, and forgets to raise them in the afternoon.

The teacher should be alert concerning the physical conditions of the room. He cannot reconstruct the school building, but he may often better conditions by suggesting that the walls of the building be painted a buff color, if they have been painted a color so dark that most of the light is absorbed. Dead white, which reflects a too glaring light, should be avoided. The teacher may suggest the purchasing of proper shades and even the changing of windows.

Teachers, when selecting books for children, should be careful that the print in the books is not too small. Every book bought for the library and every book assigned for reading should have large, clear type, and adequate spacing.

Hearing. It is impossible to divide children into two groups—those who have defective hearing, and those who have not. In hearing, the defects range from the slightest incapacity to complete deafness. It is as easy for a teacher to test the hearing of children as it is to test their vision. An ordinary watch held at various distances from the ear, with the child's eyes blindfolded, will enable the teacher to measure the distance that the child can hear. A teacher may thus compare the different children in his room by the distance they can hear the watch. Children are often found deaf in one ear and yet ignorant of their defective hearing. The teacher should always note the condition of the ears of the children. Often a child will be found whose ears are discharging matter freely, and yet apparently nothing is being done for him at home.

Children who cannot hear cannot do good school work. It is true that they may still read their books, but the most important part of the school work—that which comes from the interchange of experiences—is closed to the child. When a teacher discovers a child whose hearing is defective, he should report it at once to the parents and to the school physician, if there is one. Many times the defect may be very easily remedied. The teacher can be of great service to the children by showing them how properly to care for their ears, the bad effects of putting things into them, and the necessity of examination and treatment when ears are in bad condition. Some of the retardation in the schools at the present time is due to defective hearing which can in most cases be remedied.

Seeing and hearing are two functions that immediately reflect on the school work. There are other functions which do not reflect so directly on the school work but which are of primary importance in life.

Breathing. Children should be taught to breathe properly. Breathing does not reflect as directly on school work as do seeing and hearing, but it has a very marked effect on children. If a child is to do the best kind of work, he must be able to enter into all of the activities of the school. Children who have trouble with their breathing usually are handicapped, particularly in physical training work. A teacher should examine his pupils with care and find the children who are mouth breathers. When a child habitually breathes with his mouth open instead of breathing through his nose, it is usually an indication that there is something wrong with the throat. Usually such a child has adenoids, and the breathing will be normal again when the adenoids are removed.

Many children breathe incorrectly because they do not know how to breathe correctly. Hence it is necessary for the teacher to give the children specific instructions in proper breathing. This can be done in the periods of physical training or in other periods when attention is given to posture. A teacher may be of great service to the children if he sees that breathing is done correctly.

Posture. There is no physical condition of children for which a teacher is more responsible than posture. When a teacher has charge of children all day, five days of the week, he has a much better chance than the parents to teach the children how to stand, walk, and sit. A teacher should know that incorrect posture is a breeder of deformity and disease. Curvature of the spine is very commonly caused by poor posture, and other complications may arise because, as a result of poor posture, the vital organs are crowded out of their proper place. Children who recite standing on one foot and throw the weight of their body to one side are beginning bad habits of posture which may later lead to something serious.

Correct posture while sitting is as important as correct posture while standing. The old school seats that came in assorted sizes, were rigid, and could not be adjusted to fit the child, thus causing poor sitting posture. Most modern schools are fitted with chairs or adjustable furniture. It is not uncommon, however, to see adjustable furniture that has not been adjusted. The teacher in charge of a room should always see that such equipment has been accommodated to the needs of the child using it. He should feel a personal responsibility concerning the sitting and walking posture of every child under his care.

Teeth. One of the last lessons that has been learned concerning the care of the body has had to do with the care of the teeth of children. For many years there has been a tradition that, because the baby teeth of children drop out anyway, there was nothing particular to be gained by caring for them. This is known to be false. When the baby teeth are correctly cared for, the child has a better chance to develop good permanent teeth. Recently, doctors have become aware of the fact that many diseases can be traced to poor teeth. Every decaying tooth is a source of infection, and infection in the body means disease. It is alarming to know that a large percentage of school children have decaying teeth.

It is very hard for teachers to do a constructive piece of work with the teeth of children. It is an easy matter to get the dental charts, record on them the teeth that are decaying, and write to the parents, telling them that the child should have dental care. But parents are more careless of the child's teeth than they are of any other part of the child's body. They may be repeatedly notified that their child's teeth are decaying, and yet not take the child to a dentist. This condition may be remedied when a school has a dental clinic where the child may be sent. But for a teacher in the one-room school, in the small school system, or in the school where there is no dental clinic, it is a difficult matter to deal with. Probably the best thing that a teacher can do under such circumstances is to call the attention of the parents to the condition and give the children careful, systematic lessons on the necessity of caring for the teeth and the dangers of decay. Children who do not clean their teeth at home should be encouraged to clean them at school. The toothbrush drill is good for any schoolroom.

Cleanliness. Teachers should teach children how to be clean, why they should be clean, and then make sure that they are clean. In many parts of the country and in sections of every city this kind of teaching may not be necessary. But many children come to school in a decidedly unclean condition. The inspection of hands, faces, and finger nails is a step in the right direction. Some teachers not only inspect the hands and faces of children, but the clothing and shoes as well.

The teacher by being clean and neat himself, by teaching cleanliness and neatness to the children, and by checking up on the results may accomplish marvelous things. It is possible in districts where children live in dirty, unsanitary homes to do much in school. In many cases classes of children are being taught in school to shampoo their hair, clean their finger nails, polish their shoes, and wash and mend their clothes. School baths are also becoming common. A bathroom recently installed in a school in the poor section of a western city is used every hour of the day. The children from the poor homes bring their clean underwear to school, take a bath, and change their clothes. In this particular school hundreds of children who were dirty all year are now being thoroughly cleaned every week and are taking care of their hands and faces and clothing as they never did before. The effect of this work in the school often spreads to the home and the parents benefit from it.

Malnutrition. Malnutrition is very common among American school children. It is practically as common among children of wealthy parents as among those of the poor. Malnutrition may be caused by lack of food, by lack of ability to digest food, or by improper food. The first cause is found largely among the children from the poorest homes. The second cause may be found among children from any class, because it is a physical weakness. The third is usually found among children of well-to-do parents.

At the present time standard charts are available that give the normal healthy weights for boys and girls of various ages and heights. Conditions and the school organization permitting, it is extremely easy to strip children, weigh them, and compare the weight with the standard. It is possible thus to determine the percentage of underweight or overweight. A letter of suggestion to the parents will often help correct the conditions.

Many children, instead of eating breakfast, have the bad practice of buying candy and bringing it to school. A teacher can be of great service by teaching the children to eat correct food. He may also bring the parents into the school and show them the type of food the children should eat. One of the means now employed to do away with malnutrition is the furnishing of milk or hot lunches during the day. Much of the nervousness and inability to study due to malnutrition can be removed by the coöperation of the school and the home.

Tuberculosis. Tuberculosis is America's most destructive disease. It attacks thousands of children of school age. It is known by medical authorities to be preventable. A teacher has no more sacred responsibility than that of protecting children against it. The most effective enemies of this disease are play, fresh air, good food, and sunshine. The school that is filled with fresh air, has periods of outdoor play, and hot lunches will do more than anything else to guard children against tuberculosis.

It is very difficult for physicians to detect tuberculosis in its beginning stage, but in spite of this, every child should be carefully examined every year by a competent physician. If a child is infected or is found to be susceptible to this disease, every precaution should be taken, not only to make this child well, but to guard other children. A modern method of caring for tubercular school children is the open-air schoolroom. The schoolroom that is open all day and flooded with sunshine, and where the children are given their hot lunches and sufficient exercise, often completely cures tuberculosis. If every school child is watched carefully, and if every school provides physicians and proper schoolrooms, tuberculosis can be practically stamped out.

Cripples. The feeling toward cripples has usually been one of sympathy. Crippled children are not in need of sympathy as much as of common sense treatment. In some cities, as in Chicago, automobiles call for crippled children and take them to special schools. However, most teachers are compelled to serve in schools where there are no such provisions made. In all such cases the teacher should make every effort to have the children correctly taken care of.

In Spokane, Washington, and in many other cities, every crippled child gets the best of medical attention, and an operation if advisable, at the expense of the Rotary Club. In almost every community there is some organization that will pay the bill if the child's parents are not able to do so. A teacher can do a great service for such children if he tries every possible means of bringing them back into normal condition. If it is impossible to do this, then the teacher should give the crippled child every possible chance to get such education as will make his life worth while.

Sleep. Teachers oftentimes have trouble with children because of nervousness and drowsiness. One of the commonest causes of this condition is lack of sleep. Authorities do not agree as to the amount of sleep necessary for a child, but they do agree that children should have enough sleep so that they are wide awake and ready to do their work when they come to school. If a child is drowsy or shows signs of lack of sleep, the teacher should make an investigation of the home conditions. Some children are compelled to get up at a very early hour to deliver newspapers or do other kinds of work, or they may be up late at night to do work. However, it will be found that other causes will explain most of the cases. It is very common for children to stay up late at night to read stories, sometimes after their parents think they are asleep. A careful examination of the sleep habits of children will oftentimes relieve teachers of some of their problems of discipline. In many schools it is found advisable, particularly with the weaker children, to have a sleep period following lunch. This brings good results in most cases.

First aid. Every teacher should be able to administer first aid. No teacher will ever serve for a long period without finding it necessary at some time to take care of cuts, bruises, burns, and in extreme cases, suffocation or drowning. He should, then, whether teaching alone in a rural school or in a large school in a city system, know the basic principles of first aid in order to care for the children in his room.

The School Building

The school building is not planned by the teacher, and hence it is impossible for him to install the right kind of service systems and make the building conform to the best ideals of school architecture. But it is possible for him to make the best use of the plant in which he works. He should be very careful to see that the ventilation system in the building is correctly used. If there is no such system, he should be ever alert to provide proper ventilation by windows or by some other means. He should also see that his room is clean. Many teachers pay no attention to the physical surroundings, but every teacher should insist that the floor be properly swept and the room properly dusted. If the teacher is working in a city school system, the principal and the other school authorities will appreciate his interest in his room.

He should also be watchful of the temperature of his room. Some teachers get interested in their school work and forget the temperature. If the room is not provided with a thermostat, the teacher will often allow the temperature to run up too high or drop too low. He should have a fixed habit of reading the thermometer at certain times and caring for the temperature of the room. He should also pay special attention to the conditions of the toilet rooms to see that they are fully provided with water for washing and that they have been properly cleaned and cared for. The teacher should also give particular attention to the drinking facilities in his room. If children use a drinking fountain, they should be instructed as to the proper method of drinking. If the old-fashioned drinking pail is used, it will be necessary for the teacher to see that sanitary drinking cups are provided. These are a few of the things that a teacher should watch with great care if the children are to work under proper physical conditions.

Questions and Problems

1. Show that the school system is responsible for the children's health.

2. Give your idea of the correct way of teaching health hygiene classes.

3. Why is it imperative that the teacher have good health?

4. What should be the functions of a public school health department?

5. How may a rural school teacher care for the eyes of her children?

6. Give a number of ways in which a teacher may discover defective hearing.

7. Why is the teacher responsible for the posture of the children?

8. How can a teacher make sure that her children are getting good results from health and cleanliness lessons?

9. Give the causes of malnutrition and some of the ways of eliminating it.

10. What are the responsibilities of the teacher in relation to the health of the child?

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SUMMARY OF PART TWO

Part Two has been concerned solely with the child as an object of study. A teacher may have a good philosophy of education; he may coöperate with the community, but if he does not also deal wisely with the physical condition of the children in his care, he is not fulfilling his responsibilities. He must feel the necessity of testing the eyes and ears. He must see that children practice good posture, keep clean, and have the necessary physical exercise. In a city school system, the health department must not only care for epidemics and make medical examinations, but it should accept the responsibility for the remedying of defects. Defective physical conditions hinder development, and thousands of children come from homes in which, either through ignorance or carelessness, they do not receive proper care. The school must give that care.

Every child comes into the world with a great wealth of instincts, and many of his actions, from birth through the period of childhood, the result of these are instincts. No teacher can deal intelligently with children without having a thorough knowledge of original tendencies. A teacher who understands the child knows how to deal with manipulation, collecting, hoarding, rivalry, gregariousness, bullying, and a host of other important actions. He knows how to make those powerful forces in healthy, normal development. Much of the usual talk about the badness of children comes from those who do not understand instincts.

Learning is a modification and redirection of the original nature of the child, expressed in his instincts. For example, the modification and redirection of the instinct of manipulation makes it possible for the child to learn to write and to draw. This modification and redirection follows definite laws which are known as the laws of learning. The way the teacher applies the laws of learning constitutes the method of teaching. A method of teaching is sound just to the extent that it makes possible the working of the laws of learning. The teacher who understands the laws of learning helps children to learn in the most economical manner. When teachers work contrary to these laws the results are often disastrous.

In Part Three analysis will be made of the method of teaching, and it will be found that the method of teaching must correspond with the method of learning employed by the child.

PART THREE

THE TEACHING PROCESS

The Principles of Method
Classroom Practice
Measuring in Education

CHAPTER VII

THE PRINCIPLES OF METHOD

What Is Method?

Method is simply a way of going to work to get something done. It is a systematic way of doing something and is just the opposite of random, hit-or-miss, trial-and-error ways of working. The carpenter has a method of building a house; the general has a method of preparing to fight a battle; the mayor has a method of governing a city; the farmer has a method of planting, cultivating, and harvesting his crops; the merchant has a method of advertising and selling his goods. So in teaching, method is nothing more nor less than the orderly routine to be followed in accomplishing certain definite results. Method is but another name for the activities engaged in by the teacher and the pupils.

A well-known authority on methods of business efficiency relates the following incident in his book on that subject:

> In the summer of 1912 I attended a field day of athletic sports at a boys' school.
>
> One of the contests was swimming under water for distance.
>
> Dr. Luther Gulick, who was with me, asked one of the boys whom we knew if he intended to enter it.
>
> He said he did not, because, while he could swim under water, he had not trained for it.
>
> "Would you enter the race," we asked, "if you were sure you could win?"
>
> "Why certainly," he replied.
>
> "We can tell you how to win it," we said.
>
> He looked skeptical, but waited respectfully. "How long can

you hold your breath?" asked Dr. Gulick, taking out a stop watch.

"I don't know."

"Try it and find out. Hold your breath just as long as you can now."

He filled up his lungs and held his breath manfully for 56 seconds.

"You have held your breath four seconds less than a minute," we told him. "Is that as long as you can hold it?"

"Yes, sir."

"And yet there are people who hold their breath for three or four minutes. A sea lion can hold his breath under water for 35 minutes. Any normal boy of your age can hold his breath for two minutes without hurting himself. The secret is to breathe deeply and slowly many times, thus over-oxygenating the blood, then with the lungs full, to hold the breath. Now, we shall hold the watch again, and give you the signal. You can hold your breath two minutes."

We held the watch and he did as we told him. It was a hard struggle, but he managed it.

"You see," we said, "you can hold your breath twice as long as you thought you could. Now, how many strokes do you take in a minute when you swim under water?

"Make the motions with your arms just as you make them in the water, and we shall count."

We found he made sixteen strokes a minute.

"Now," we said, "you know you can hold your breath for two minutes. You know that by counting twenty-four strokes you will know when a minute and a half is up. Now, you go into this race, dive into the water, swim full twenty-four strokes—it will not kill you, and you will win."

Then the instructions were written out so that he could not possibly make any mistake about it. This boy had no idea of entering the swimming contest, because he thought he had no chance to win it; in other words, he did not know how to win, and so he thought there was no use trying. An hour later he easily won the swimming-under-water contest.[1]

The stumbling block which kept this boy from entering the contest at first was that he did not know the best way to win. Being ignorant of the *method* of best utilizing the power that was in him, he felt that it was hopeless for him even to try. But that is not all. The other boys in the contest were perfectly willing to try, were full of enthusiasm for the competition; but their best efforts were frustrated by their lack of knowledge of the means of using their enthusiasm and ability. They were relying, as we say, on main strength and ignorance. They had not learned the best way to do the work that was before them.

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[1] Emerson, H., *Business Efficiency*, Chap. I.

Before going into the water the one boy knew the one best way to do what he was trying to do, and he knew that he could do it, because he based his calculations on accurate knowledge, while the other boys had simply been going by guesswork. They spent several weeks practicing swimming under water, but it never occurred to any one of them to find out by a watch how long he could hold his breath or to find out how many strokes he could take per minute under water.

It makes no difference what one's work may be: whether he be a bricklayer or a school teacher, there is one best way to do it, and his only aim and object should be to find that way and follow it. We are unjust to ourselves and to our work, we waste our best energies and lose our finest opportunities when we do not seek out and follow the most efficient method of employing our powers in the work that is given us to do. Knowing how to do a thing the best way and knowing that you can do it are ninety-nine per cent of doing it.

How does all this apply to teaching? By way of illustration let us compare two teachers. One works by old haphazard, hit-or-miss, trial-and-error method, and the other by a method that is based upon a sound philosophy and psychology of education. The first teacher receives his instructions and the course of study from the superintendent, and is assigned to a certain grade in the elementary or high school. He starts out in an aimless sort of way, without any definite plan of how he is going to get results, but with just a hazy notion that he is to teach school. He flounders along from week to week without following any definite plan of work; one day he tries this, one day he tries that, and the next day he tries something else; in fact, he has no special reason for doing any particular thing.

The second teacher determines first of all what is to be done and then seeks the best method of doing it. He has a clear, sound conception of the function of the school in its relation to society; he understands the significance and place of subject-matter and how to present it; and he is intelligent regarding the nature of the child with whom he is to work. Thus equipped, he proceeds to his task with every opportunity of service and success.

THE FUNCTION OF EDUCATIONAL METHOD

Method is the way we bridge the gap between the child and society. "There is the individual on the one hand and the world in which he must live on the other. Men have been living here a long time and have accumulated a great deal of knowledge which somehow or other must guide each new traveler, but how shall these two terms of the educational equation be brought together?"[1] The question is, what can we do to bridge this gap between the child and society? How can children learn to the best advantage? What can we do to assist them in their learning? How does the child, ignorant, helpless, and dependent, finally become a useful member of society? The solution of this tremendous and complicated problem is, then, the true function of educational method.

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[1] Moore, E. C., *What is Education*, page 205.

Factors Which Determine Method

The major factors which determine the principles of method are: the aims of education, the nature of the child, and the nature and needs of society. The history of education shows clearly that aims not only determine the subject-matter and materials to be used, but also the method of presenting them. The way in which the subject-matter is presented by the teacher will depend upon the purpose that he seeks to accomplish. When the aim of education was to discipline the mind, the method and practice reflected the idea. When highly centralized systems of education impress the teacher with the idea that the aim is to pass certain examinations, the method of teaching clearly shows the existence of that belief.

Conflicting Aims Revealed in Present Method and Practice

In general, our present method and practice reveal two contrasting and apparently conflicting aims. One aim is merely to transmit or impart a certain amount of educational material or subject-matter; when the teacher has taught the lesson, has imparted information to the pupils, he feels his duty is done. The other aim is to use this material or subject-matter for the purpose of forming certain ideals or predispositions, and to give new significance to the facts of everyday living.

There need not necessarily be a conflict between these two aims. Legibility and speed in penmanship can be developed along with an appreciation of and a desire for neatness. A spelling consciousness can be developed together with the ability to spell. Rate and comprehension in reading need not be sacrificed in developing a keen appreciation of and taste for good literature. Speed and accuracy in the fundamental processes of mathematics need not be sacrificed through the study of problems that introduce the pupil into the fields of astronomy, surveying, engineering, economics, and sociology. Important historical and geographical facts need not be neglected in bringing about the enlargement of the significance of direct personal experience. As McMurray says:

> Instruction cannot rest with cold facts alone. Its quality is to be measured partly by its provision for the growth of motive. One object of teaching a pupil how to keep the skin healthy should be to arouse a desire on his part to practice the rules of hygiene thus learned. One object of teaching him how to play games should be to make him want to learn more games, even throughout life. One object of teaching the Crusades in history might well be, by showing how superficial the causes were, and how much the warfare cost, to influence the youth's attitude toward the present movement for arbitration. One object of teaching about John Hampden is to lead pupils to determine to imitate him.[1]

We are prone to allow ourselves to think of education as a manufacturing process with so many units of reading, geography, and arithmetic put into the machine and a finished product turned out—an educated individual. No matter how well selected and proportioned the mixture or raw material may be, or how well it is adapted to the capacity of the learner, unless worthy ideals, desires, and appreciations have been developed and transformed into spiritual and social forces, all is unavailing. In the following passage Bagley shows the interdependence of knowledge and ideals:

> One might acquire information regarding civic organization, social hygiene, good government, and a host of other socially important topics, but unless one were inspired with powerful socializing ideals, the knowledge would be a luxury without a pur-

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[1] *Report on the Quality of Classroom Instruction,* page 8.

WILLIAM HEARD KILPATRICK

William Heard Kilpatrick is a noted educational thinker and one of the great classroom teachers in America. Students get from his work a sound philosophy of education and a superior method of presentation.

pose. Similarly, one might be possessed of the strongest social motives, and still be unable to realize one's aims because one lacked the facts and principles that must be interpolated as means to ends. The failure of mere knowledge to work social reforms is too obvious to need discussion. The failure of unintelligent enthusiasm has been painfully apparent in connection with the well-meaning but often futile attempts that have been represented by political corruption, child labor, the miscarriage of justice, and the social evil.[1]

THE TEST OF TRUE METHOD

The term *methods* has been applied not only to the important phases of the teaching process, but also to petty devices and tricks of the trade used by the teacher. And so we have a bewildering array of general and special methods, primary methods, intermediate grade methods, junior high school methods, and senior high school methods. In arithmetic we have had the Grube Method, the Speer Method, the Spiral Method, and the Practical Method. In reading we have had the A B C Method, the Word Method, the Sentence Method, and countless others. In writing we have had the Spencerian, the Vertical, the Zaner, and the Palmer Methods. These should not be thought of as so many different methods of teaching, but merely as different forms that method may take. We should remember that method is not determined by any external or mechanical form of procedure, nor is it dependent upon educational fads and the whim of the teacher. Method is a fundamental thing in the educative process, and thus makes possible a science of education. It is possible to develop a method of teaching which is capable of being adapted to all subjects and classes. This is true because the laws of learning are the same wherever we find them. The real test of method depends upon its utilization of the laws of learning, and method is sound just to the extent that it makes possible the operation of these laws.

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[1] *Educational Values*, page 153. Reprinted by permission of The Macmillan Company, publishers.

THE METHOD OF TEACHING AND THE METHOD OF LEARNING

The method of teaching must correspond with the method of learning employed by children. A child learns through his own responses. It is not what is presented to him that educates him, but rather the responses that he himself makes to what is presented. What the child does is the great factor in learning; in other words, it is the self-activity of the pupil which educates him. For this reason a child often learns more from other pupils than he does from his teacher, and he may learn more outside of the school than in school.

Learning is taking place wherever an individual is responding to his environment and profiting by his past experiences. Wherever active children are growing and developing, some phase of their environment is serving as the material for the learning process. If education is a process of experience-getting or of enriching life, it is possible for the child to get an education without going to school. However, the school is organized for the purpose of facilitating this process of experience-getting.

THE PRINCIPLES OF TRUE METHOD

Organizing and utilizing the child's self-activity. Although it is important to remember that the method of teaching must be based on the tendencies of self-activity that are present, we must not forget, as Miller says, that:

> Activity as an end in itself is just as bad as knowledge as an end in itself. We want activity that gets somewhere. A large

Paul V. Kear

part of the child's undirected activity has important results, but school method is concerned with the problem of making sure that the self-activities of children are called forth in situations under which the conditions are right for fruitful results. We do not want whittling merely for the pleasure of making shavings, but rather whittling that produces something that will reward the activity more richly. We do not want mere scribbling, but scribbling that leads on to writing and drawing. We do not want merely curious prying around in the garden and in the museum, but prying around that shall discover interesting and valuable things.[1]

Since self-activity is the only basis of learning, we must remember that self-activity involves the reconstruction of old experiences in order to assimilate new ones. Four men are walking through a forest. One of them says, "What a fine place for a sawmill"; another one says, "What a wonderful place to paint a picture"; another one says, "What a dandy place to hunt squirrels"; another one says, "What a beautiful site for a natural park." Thus we see that each one of these men responded to a common situation in a different way, and his response was entirely determined by the host of his past experiences. He reacted toward a new situation on the basis of past experiences. The method of teaching is simply a plan whereby we build on pupils' old experiences and provide new ones. In order to do this the teacher must understand the past experiences of his pupils and build his instruction upon these. If the pupil has the necessary past experiences the teacher connects the new with these. If, however, the pupil lacks the necessary past experiences these must be provided in order that he may learn the new.

It is interesting to notice the various responses children make because of their meager past experiences. A little boy received a dime and took it out in the garden and planted it. He returned to the house and told his mother that he had planted the dime and would soon have a tree full of dimes. A boy, upon being asked how old he was, replied that when he stood on his feet he was six and when he stood on his head he was nine, because a six turned upside down was nine.

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[1] *Education for the Needs of Life*, page 205. Reprinted by permission of The Macmillan Company, publishers.

The method of teaching must not only enlarge and enrich the experiences, but it must also properly organize them. They must be organized with reference to meaning, understanding, and judgment. For example, the experience of learning to count must be developed into addition, and this experience of adding must be developed into that of multiplication. After a proper study of hygiene and sanitation, such things as ash heaps, garbage pails, fly traps, and drinking fountains have a new meaning to the pupil, and his environment is enlarged to that extent.

The only sound justification for teaching any subject is to make it a means of enabling each child to reorganize his experiences and widen his outlook on life. Subject-matter representing desirable experiences which we want the child to have must be woven in with various other things. This, if rightly done, is at the same time training in thinking; for in order to get the application of the subject-matter to various other things, the pupil must reorganize his past experiences. It is this process that we call thinking. As Dewey says: "Every recitation in every subject gives an opportunity for establishing cross connections between the subject-matter of the lesson and the wider and more direct experiences of everyday life."[1]

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[1] *Democracy and Education,* page 191.

Method and thinking. Unless new facts are presented in such a way as to enrich one's past experiences, the process of learning becomes formal and disconnected from life. Since thinking is the reconstruction of our past experiences in order to make possible the assimilation of new facts, learning without this process becomes mere memorizing. A pupil may recite or reproduce very accurately without any understanding of what he is saying. There is a prevalent tendency among teachers to over-emphasize memory work and place more or less of a premium upon it. Perhaps it is not too sweeping a statement to make, that a large percentage of the grades or marks which pupils receive in the public schools is based upon their ability to reproduce mere facts. As evidence of this we need only note in the average recitation or examination the large number of memory questions and the small proportion of thought-provoking questions. A pupil once criticized a teacher, saying, "I do not like Miss B because she never asks any questions in the book." This was a frank confession that the child felt far safer when relying on his memory than when forced to think the answers out for himself.

Unless the learner interprets new facts of social worth in such a way as to relate them intimately to what he already knows, the method of teaching has failed to attain its proper function, and education its proper aim. Subject-matter is not something to be poured into a child, but rather something he is going after in order to accomplish some purpose. The weak point in conventional teaching is the failure to recognize that an individual is being educated only when he plans, purposes, executes, judges, and generalizes for himself. What each pupil plans, executes, and judges is the great factor in teaching; therefore, the function of a teacher is to help the child form worthy purposes and achieve these purposes. The teacher's ability to arouse purposes will depend largely upon his knowledge of the child and the subject-matter.

Thinking always starts with a problem, a feeling of doubt, perplexity, confusion, need, or a lack of adjustment. Then comes a suggestion or possible explanation, which is examined on its merits—that is, whether it has any bearing or will shed any light on the problem. From this point we may proceed in two definite ways. We may collect all the facts and data that can be explained by means of the suggestion, or we may predict on the basis of the suggestion the facts we shall find.

In the following passage Dewey shows, in an admirable way, the relationship which exists between method and thinking:

> Processes of instruction are unified in the degree in which they center in the production of good habits of thinking. While we may speak, without error, of the method of thought, the important thing is that thinking is the method of an educative experience. The essentials of method are therefore identical with the essentials of reflection. They are, first, that the pupil have a genuine situation of experience—that there be a continuous activity in which he is interested for its own sake; secondly, that a genuine problem develop within this situation as a stimulus to thought; third, that he possess the information and make the observations needed to deal with it; fourth, that suggested solutions occur to him which he shall be responsible for developing in an orderly way; fifth, that he have opportunity and occasion to test his ideas by application to make their meaning clear and to discover for himself their validity.[1]

The reasoning of children. Very young children, according to Thorndike, "not only possess the requisite elementary mental processes involved in reasoning, but also the interest in reasoning, but we nip it in the bud by neglecting their questions, making them accept mere words as explanations, by feeding to them the dry bones of mathematics and grammar, by teaching them to accept everything upon authority. It is not the case that the interest in reasoning comes late in youth; it comes early, but we restrain and dwarf it."[1]

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[1] *Democracy and Education*, page 191.

If all elements involved in reasoning are present, why do not young children reason as adults do? The answer to this question is that they do reason in the same way, using the same general processes. The following examples[2] show children reasoning in the same general way as adults:

(2 yrs.) *T.* pulled hairs on father's wrist. Father: "Don't *T.*, you hurt papa." *T.*: "It didn't hurt grandpa."

(2 yrs., 5 mos.) *M.* said: "Gracie can't walk; she wears little bits of shoes; if she had mine she could walk. When I get new ones, I'm going to give her these, so she can walk."

(2 yrs., 9 mos.) He usually has a nap in the forenoon, but Friday he did not seem sleepy, so his mother did not put him to bed. Before long he began to say: "Billy's sleepy; mamma put him in the crib." This he said very pleasantly at first, but as she paid no attention to him, he said, "Billy cry, then mamma will." And he sat on the floor and roared.

(3 yrs.) It was between five and six in the afternoon, the mother was getting the baby asleep. *J.* had no one to play with. He kept saying, "I wish *R.* would come home; mamma, put baby to bed, so *R.* will come home." I usually get home about six, and as the baby is usually put to bed about half-past five, he associated the one with the other.

(3 yrs.) *W.* likes to play with oil paints. Two days ago my father told *W.* he must not touch the paints any more, for he was too small. This morning *W.* said: "When my papa is a very old man, and when I am a big man, and don't need any papa, then I can paint, can't I, mamma?"

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[1] *Notes on Child Study*, page 101.
[2] *Ibid*, page 94.

(3 yrs.) *B.* climbed up into a large express wagon, and would not get out. I helped him out, and it was not a minute before he was back in the wagon. I said, "*B.*, how are you going to get out of there now?" He replied, "I can stay here till it gets little, and then I can get out my own self."

(3 yrs.) *F.* is not allowed to go to the table to eat unless she has her face and hands washed and her hair combed. The other day she went to a lady visiting at her house, and said, "Please wash my face and hands, and comb my hair; I am very hungry."

(3 yrs.) If *C.* is told not to touch a certain thing, that it will bite him, he always asks if it has a mouth. The other day he was examining a plant to see if it had a mouth. He was told not to break it, and he said, "Oh, it won't bite, because I can't find any mouth."

Very young children undoubtedly reason, but from several causes they do not reason well. Among these Thorndike lists the following:

> They haven't the necessary data. The right ideas are not present, and so cannot operate. Wrong ideas come up and are accepted because the other ideas which would show them to be wrong are not present. Again, children have not learned to look for the essential part in anything they are thinking about. They have not learned to break the total fact up into its parts and make use of the part that concerns their purpose. Nor have they had opportunities in most cases to learn what the essentials are. All things are to them much like what a game of chess is to the beginner. He cannot reason out the best move to make, because he does not see the essential element in the situation of the pieces, has not learned what the essential elements are in the various conditions of the game. He reacts to the whole thing roughly, or to some feature which for his purpose is unimportant, and so blunders. . . . Within the limits of our capacities we reason as much as it pays us to do. Where we can comfortably follow habit or example or rote memory, we do. Now children may, as is the case with some adults, have the capacity for reasoning, but be infrequent reasoners because it does not pay them to reason.[1]

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[1] *Notes on Child Study*, page 95.

Creating an interest in reasoning and thinking. Thorndike suggests the following means of creating an interest in reasoning and thinking:

> By making happiness, esteem, and the other factors of childish success depend more on their reasoning out their little problems for themselves and less on mere docility, we would create in children an interest in such thinking. By preparing them earlier for the freedom of action they will at adolescence demand, we could make boys attain more gradually the habits of independent thought which go with it. By encouraging independence in choice in girls we would reduce the difference in zeal for reasoning between them and boys. By hastening the acquisition of the tools of the intellectual life, or giving side by side with them interesting data for thought, we would find younger children more zealous in reasoning than might now be thought possible.[1]

In the training of thinking the classroom should be a place where pupils experiment with meanings. The teacher presents the facts, but all the intellectual processes should be gone into by the pupils. The only justification for the teaching of any subject is to make it the means for the child to reorganize his experiences and thus widen his outlook on life. Unless an individual has developed proper habits of thinking and has learned to appreciate open-mindedness and tentative judgments, he cannot grow, and his life will be shut in by narrow boundaries of prejudice, ignorance, and selfishness.

Questions and Problems

1. What is the difference between method and device?
2. Is there any difference in the educative value of teaching a boy the knack of raising cabbages and of teaching him the principles of plant growth? Justify your answer.
3. What three factors should determine the method of teaching? In some cases what actually does determine the method of teaching?

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[1] *Notes on Child Study*, page 100.

4. If thinking causes the pupil to differ from the teacher, to what extent should thinking be encouraged in the classroom?

5. Give an instance in which a teacher caused you to do some real thinking.

6. Make a list of ten important problems that occur in daily life. Make another list of ten problems that are used in the ordinary school. How do these lists compare? What are your conclusions?

7. In how far can you say there is a different method of teaching each different subject?

8. Recall the way you were taught geography or history in the elementary school. Did the method agree with the point of view of this chapter? How did it differ?

9. Do the pupils in the elementary school do more thinking and reasoning out of school than in? Along what lines? Why?

10. Why do college students, apparently desirous of getting an education, seem to be happy when the instructor fails to appear at the class hour?

11. Has the teacher completed his work when he has taught the child how to read and write and figure? What is the defect of this method of teaching?

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CHAPTER VIII

CLASSROOM PRACTICE

The Question as a Factor in Teaching

The function of the question. The efficiency of a school must be measured by the efficiency of its classroom practice. The school life centers around the recitation, and questions and answers make up the greater part of the recitation period. One writer states that at least eight-tenths of the school time is occupied with questions and answers. One of the most important phases of the teaching process is the art of questioning, and the art of questioning well is a high attainment.

When we find a true teacher at work in a classroom, we generally discover that he is using the question and answer recitation for a distinct educational purpose.

> He seeks through a series of skillful questions to draw forth from his pupils certain groups of facts related or unrelated; he then gives the pupil the incentive to assort his facts and put them together in new relations, converting them into potential factors in his experience; he helps him to make over a mass of dry facts into living knowledge. The mechanical teacher seeks in his questioning merely to drive home a certain daily assortment of facts gleaned from the perusal of the textbook lesson. The teacher who is a master of the art of questioning knows how, by the use of the right question in the right place, to teach his pupils to acquire and classify knowledge. If he is not a master of the art, if he cannot himself be clear and logical in his questioning, he fosters in his pupils negative habits of work, poor associations, and careless impressions.[1]

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[1] Stevens, R., *The Question as a Measure of Efficiency in Instruction*, page 3.

A study of the questioning activity of classes. Miss Stevens made a series of ten studies in order to determine the questioning activity of particular classes throughout an entire school day. In each observation the class was accompanied from the hour of assembly to the time of dismissal and the questioning activity was minutely recorded. The results are shown below in five of the studies made:[1]

Seventh Grade. Class Periods: 30 Minutes.

	QUESTIONS
History	76
Mathematics	85
English (in two periods)	97
Modern Languages (French)	65
Science (Geography)	88
	411

Eighth Grade. Class Periods: 40 Minutes

Assembly (special)	0
English	200
Science	0
Penmanship	0
Music	0
Mathematics	56
Reading (declamations by class)	20
History (work done by teacher)	45
	321

First Year High School. Class Periods: 45 Minutes.

Declamation	102
English	55
Science (test)	15
Mathematics	84
German	114
	370

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[1] *Opus cit.*, pages 13-14.

First Year High School. Class Periods: 30 Minutes.

Latin	42
English	120
Algebra	78
German	10
History	88
	338

Second Year High School. Class Periods: 45 Minutes.

German	46
Latin	90
English	89
Study Period	0
History	128
Mathematics	130
	483

In commenting on the results of her study, Miss Stevens says:

> In this series of ten observations the average number of questions for a day's activity is 395. I have no doubt that if any one of these classes had been followed for a period of one week or longer, the average would have remained practically the same, a little higher or a little lower. It would not help us to know the absolute accuracy of the figure even if it were possible to secure it. What we do need to know is the direction in which our present practice is drifting, and the pace it is assuming. Considering that children in our schools are regularly held by our teachers, collectively, to a performance of something like four hundred questions and four hundred answers in one day, and something like four hundred questions and four hundred answers the next day, and so on, we have in this situation alone a rather significant factor to reckon with in estimating standards of classroom efficiency.[1]

The effect of a large number of questions. In discussing the large number of questions asked during the recitation period Miss Stevens lists the following characteristics of such a recitation:[1] *First,* the large number of questions in the classroom for a considerable time causes a high-strung nervous tension where there should be natural and normal conditions. *Second,* the large number of questions suggests that the teacher is doing a large part of the work instead of the pupils. One reason why one hundred fifty questions can be asked in forty minutes is due to the fact that the teacher can think more rapidly and talk more rapidly than the pupils, and in order to cover a large amount of subject-matter he carries the train of the lesson through his questions, the pupils merely punctuating the series with short answers from the text. *Third,* the large number of questions suggests that whenever teachers, either individually or collectively, preserve such a pace for any length of time, the largest educational assets that can be collected are verbal memory and superficial judgment. It is quite obvious that with the rapid fire method of questioning there is no time allowed a pupil to go very far afield in his experiences in order to renew or to associate ideas in fruitful ways. *Fourth,* the large number of questions suggests that there is no time in the mechanics of a schoolroom to cultivate the gentle art of expression. The only way to develop powers of speech is to give opportunity for their exercise under skilled guidance. When the day's work is so largely given over to rapid questioning, there is no time for niceties of speech. *Fifth,* the large number of questions suggests that there is little thought given to the needs of individuals. The teacher sets the pace in his questions, the pupils follow as a body, or fall at the wayside. *Sixth,* the large number of questions suggests that we are coming more and more to make the classroom the place for displaying knowledge instead of a laboratory for getting and using it. *Seventh,* the large number of questions suggests that in actual practice there is very little real effort put forth to teach boys and girls to be self-reliant, independent mental workers. There is no time to teach them how to study, how to organize subject-matter, how to judge the relative worth of facts, and what to memorize.

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[1] *The Question as a Measure of Efficiency in Instruction*, page 15.

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[1] *Opus cit.,* pages 17-26.

A study of memory and thought-provoking questions. Miss Stevens made a further study[1] of the proportion of memory and thought-provoking questions. The results are shown in the table below:

Subject	*Total Number of Questions*	*Total Number of Memory Questions*
1. History	41	29
2. History	66	60
3. English	69	39
4. English	70	26
5. English	73	33
6. English	74	61
7. Science	86	58
8. History	90	75
9. History	94	74
10. History	125	87
11. History	142	103
12. English	94	26
13. English	129	65
14. Science	122	92
15. Latin	105	89
16. Language	196	196

This table reveals some interesting facts concerning the quantity and quality of questions. We may find in a lesson a relatively small number of questions and a comparatively high percentage of pupil activity and still very little attention being given to the actual growth and development of the pupils. This fact is illustrated in

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[1] *The Question as a Measure of Efficiency in Instruction,* page 47.

Lesson Number 2 where we find 66 questions asked and 60 of these memory questions based directly upon repetition of the text material. Lesson Number 6 also illustrates a relatively small number of questions and a comparatively high percentage of pupil activity, and yet we find that 61 were memory questions with only 13 belonging to the class of questions that stimulate reflection and make possible an intellectual growth. Lesson Number 3 is an example of a high type of classroom exercise: a relatively small number of questions (69), a very few memory questions (39), and 30 thought-provoking questions. Lesson Number 5 also ranks well with a total number of questions (73), memory work reduced to 33 questions, and 40 thought-provoking questions.

Additional studies in questioning. In a survey of Public School Number 188, New York City, made by the Bureau of Municipal Research, one of the most important summaries is the following: "In 18 recitations there were 662 questions of *what, when,* and *where,* and only 162 of *how* and *why.* And the teachers did most of the thinking for the pupils, for the number of words in the teachers' questions, as compared with the number in the pupils' answers, was a ratio of 3½ to 1."

In the Springfield, Illinois, survey, in 684 classroom visits made by Doctor Ayres and his staff, it was determined that in "eight out of each ten rooms the questions were predominantly of such a nature that the pupils could answer them only by stating facts or giving definite textbook information, and in five out of each ten rooms these fact answers consisted mainly of single words." "All these records," says Dr. Ayres, "point in the same direction. They indicate that the work of the teachers consists in hearing pupils recite facts from the textbooks, while the sort of teaching that is of the greatest value is the sort that teaches the children to think."

In the Portland, Oregon, school survey we find the following summary concerning the instruction there:

> The teaching is bookish, and consists of unreasoning memorizing. No suggestion or connection is made between the book statements and the pupil's own immediate observation. Even home geography is conducted from a book, and such questions were asked as, 'Where is air?' 'What is moving air called?' 'What heats the air?' These questions are answered fairly well, it is true, by memorized hollow-word answers. Such questions indicate that the chief purpose of teaching is to pass the formal term examinations, as was shown by a careful scrutiny of the file of questions used in these examinations.

Three qualities of a good question. In estimating the quality of a good question there are at least three things that we need to know: the amount of reflection it stimulates; how well it is adapted to the experience and the ability of the pupil; and to what extent it brings forth a complete well-rounded thought on the part of the pupil.

A good question should be thought-provoking and stimulate reflection. The difficulty with much of our everyday practice is that so many questions furnish exercises for mere verbal memory. To what absurdities such training may lead is exemplified in the following anecdote told by Horace Mann:

> It recently happened, in a school within my own knowledge, that a class of small scholars in geography, on being examined respecting the natural divisions of the earth—its continents, oceans, gulfs, etc.—answered all the questions with admirable precision and promptness. They were then asked, by a visitor, some general questions about their lesson, amongst others, whether they had ever seen the earth about which they had been reading; and they unanimously declared in good faith that they never had.[1]

A question might be a good one for one group of children and a very poor one for another group of children.

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[1] Quoted by Bode, B. H., in *Fundamentals of Education*, pages 141-42.

To be a good question, it must be closely related to the experience of the learner; otherwise it cannot promote profitable reflection and thinking. And finally, a good question should draw forth a well-rounded thought. Careless and inaccurate answers are frequently accepted by teachers. Such questions as "Tell me all about this or that" cannot be expected to bring forth well-rounded answers on the part of the pupil. If the school is to develop good habits of thinking on the part of its pupils, then there must be many thought-provoking questions introduced into the daily class exercises; especially is this true if our pupils are ever to grow and develop into intelligent members of society.

Examples of good and bad questions. The following questions are typical of the large number of memory questions asked by the average teacher:

1. Name ten of the Southern States and their capitals.
2. Name four agricultural products of the Southern States.
3. Name two important things mined in the South.
4. Name five semitropical fruits raised in Florida.
5. What great industry is carried on in Texas?
6. From what two sources do we obtain sugar?

To this type of question you either know or do not know the answer. No amount of thinking or reflection will produce the fact if it is not already in memory. These questions stimulate memory, which has its proper place in the learning process, but the elements of reasoning are not present as they are in the following group:

1. How did the Civil War affect manufacturing in the Southern States?
2. Why will the United States probably manufacture more of the cotton raised here this year than in years past?
3. If you were a lumberman would you rather work in a southern or a northern forest? Why?

4. Why is the grass of the Kentucky Blue Grass region so nourishing for stock?
5. Why do so few immigrants settle in the South?

In the first group of questions the teacher evidently considers the textbook as a catechism and the class exercises merely as an instrument to test the amount of information memorized by the pupil. This type of question develops no initiative, no creative thinking, no organization of subject-matter on the part of the child. This purely fact teaching no doubt sends a large number of children out of the school at the end of the fifth and sixth year because of the lack of interest. The second group of questions shows that the teacher thinks of the textbook as a tool for the pupil. Facts are considered necessary, but the teacher considers them only a means, not an end in themselves—a means of creating a fuller significance for the facts of life. Conclusions are called for which cannot be found ready-made in the text. It is also evident that the teacher considers it his duty to develop in the children the power to work out solutions and to train them to think for themselves. This type of question develops the pupil's capacity for thinking, and without this thought stimulus there is no real thinking or teaching.

The practical possibility and desirability of the use of thought-provoking questions in leading children to do constructive thinking should be fairly obvious from the foregoing discussion.

It is an easy matter to talk about the importance of questioning; it is not an easy matter, however, actually to formulate good questions. This is obvious to those who seriously undertake it. It is rarely, if ever, well done if left to the inspiration of the moment. Skill in such work is a matter of slow growth. First attempts may easily make the whole matter seem ridiculous,

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yet the chances are that, other things being equal, a teacher will gain better results through these efforts than by routine memory work. Unless the instruction of the day in the various subjects is dominated by the thought question or problem, the value of the day's work is certainly open to question.[1]

TYPES OF TEACHING

Strayer and Engelhardt in *The Classroom Teacher*[2] discuss three major types of teaching: reasoning, appreciation, skill and habit formation. Since the aim of education is to bring about the largest possible growth in knowledge, ideals, and skills, and since the school is judged on the type of intellect, character, and skill developed, we can readily see the necessity of emphasizing these three major types of teaching.

A classification of six types of teaching. Stevenson[3] has made an examination of the types of teaching now in common use and gives us the following: questions, topics, problems, drills, applications, and projects. Under the question type are listed detailed, memory, topical, and thought questions. As examples of detailed and memory questions Stevenson cites the following:

1. How many states are included in the northeastern section?
2. What mountain ranges traverse the northwestern part of the section?
3. What sections are suited to agriculture? Why?

Examples of topical questions:

1. What are the surface characteristics of the northeastern group of states? Why?
2. What are the chief occupations of this section? Why?

The following is quoted as an example of thought questions: "To what extent can the industries, occupations, and locations of cities of New England be accounted for by its surface conditions?" The topical questions given above illustrate the topic method of teaching. The problem type of teaching includes the characteristics of a problem as stated by Dewey: "the need of clearing up confusion, of straightening out ambiguity, of overcoming an obstacle, of covering the gap between things as they are and as they may be when transformed." Under the drill type are listed tests and reviews. Under application are included illustrations, demonstrations, and experiments.

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[1] Hall and Hall, *The Question as a Factor in Teaching*, page 167.
[2] Chap. V.
[3] *The Project Method of Teaching*, Chap. II.

Stevenson[1] considers the project to be a distinct type of teaching and defines it as "a problematic act carried to completion in its natural setting." He interprets natural setting to mean that the solutions undertaken in school are no different because they are school problems than they would be were they to come up in life outside of school. If the solution is carried on in the same way in school as it would be carried on in life outside of school, then the problem has a natural setting and becomes a project.

Other classifications of teaching exercises. Miss Earhart lists the following forms of teaching exercises:[2]

1. Telling exercises, or the lecture method.
2. Object lesson.
3. Inductive and deductive lessons.
4. Appreciation lesson.
5. Skill and habit-forming lessons.
6. Study lesson.
7. Assignment lesson.
8. Recitation lesson.
9. Review lesson.
10. Socialized lesson.

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[1] *The Project Method of Teaching*, page 89.

[2] *Types of Teaching*, Chap. IV. Riverside Textbooks in Education. Houghton Mifflin Company. Used by permission.

The activities of the teacher and the pupil may be further classified into four types: constructive, appreciative, intellectual, skill- and habit-forming. According to Kilpatrick, there are four types of purposive activities or projects:

> Type 1, where the purpose is to embody some idea or plan in external form, as building a boat, writing a letter, presenting a play; type 2, where the purpose is to enjoy some (aesthetic) experience, as listening to a story, hearing a symphony, appreciating a picture; type 3, where the purpose is to straighten out some intellectual difficulty, to solve some problem, as to find out whether or not dew falls, to ascertain how New York outgrew Philadelphia; type 4, where the purpose is to obtain some item or degree of skill or knowledge, as learning to write grade 14 on the Thorndike Scale, learning the irregular verbs in French.[1]

It should be remembered that any classification of the types of teaching is purely arbitrary and exists for the purpose of convenience. It is evident that these various types of teaching will more or less overlap, and the use of any one type is determined largely by the aim, or the purpose to be accomplished. In any given lesson several different types may be involved, as for example: A teacher may impart a certain amount of knowledge or information, and then develop an appreciation of this knowledge, and finally attempt to make this knowledge permanent through drill and review.

THE PROJECT METHOD OF TEACHING

At the present time there is no commonly accepted definition of the project method. Educational writers attempting to define it fall into two distinct classes. One group gives a narrow interpretation of the term and the other applies it more broadly. The first group thinks of the project as a distinct kind of teaching, especially adapted to constructive or manual activity, a new type of teaching to be added to the already existing types. The second group of writers thinks of the project method as a relatively inclusive concept of teaching; an attempt to unify our scattered notions about learning and teaching. They consider it more as a series of principles based upon a sound educational philosophy and psychology, which will apply to almost any type of teaching.

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[1] *Teachers College Bulletin*, October, 1918, page 16.

A narrow interpretation of the project method. As representative of the first group, the following quotations illustrate the narrow interpretation of the project method. Snedden's description of the term project is a good illustration of the narrower interpretation:

> A few years ago some of us began using the word project to describe a unit of educative work in which the most prominent feature was some form of positive and concrete achievement. The baking of a loaf of bread, the making of a shirtwaist, the raising of a bushel of corn, the making of a table, the installation of an electric bell outfit—all these, when undertaken by learners, and when so handled as to result in a large acquisition of knowledge and experience, were called projects.[1]

According to Wilson:

> A project is something to be done requiring constructive or creative ability. It may be manual, and this is the original and best type of project work, such as making a library table or raising a field of corn. To be a project it must be based upon a problem involving study and learning and be carried through to completion in a way to answer the questions involved in the original problem or problems. But there may be projects in subjects like history or geography upon the problem type of material, but not involving manual doing. The doing, in this case, would be such as organizing or carrying on a state senate or a constitutional convention. But there must be doing of a constructive or creative type.[2]

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[1] *School and Society*, Vol. IV, page 420.

[2] Wilson and Wilson, "The Project Method," *Educational Progress*, Vol. I, No. 2.

Parker says:

> The central element in project teaching is the planning by pupils of some practical activity, something to be done. Hence, a pupil-project is any unit of activity that makes the pupils responsible for such practical planning. It gives them practice in devising ways and means and in selecting and rejecting methods of achieving some definite practical end. This conception conforms with the dictionary definition of a project as "something of a practical nature thrown out for the consideration of its being done" and with the dictionary statement that "to project" means "to contrive, to devise, to scheme." Furthermore, it describes with considerable precision a specific kind of improved teaching that has become common in progressive experimental schools since 1900. . . . Project teaching, when conceived as the pupil-planning of practical activities, is clearly a subdivision of the larger topic, problem solving. In project teaching, the pupil is always confronted with some problem, but a problem of practical character, as distinguished from merely theoretical or speculative problems. Thus, a practical project problem in history might be, "How shall we dramatize the life of Washington and his troops at Valley Forge?"; while a theoretical problem would be, "Who was the greater general, Washington or Frederick the Great?"[1]

A broad interpretation of the project method. There is a broader interpretation of the project method, which we shall now discuss. A study of the fundamental principles underlying the project will show that the method is not new, but is a product of evolution. It is an attempt to utilize direct interests and purposeful activities in the educative process; to emphasize a neglected factor in the teaching process—the attitude of the learner. In any teaching process there are at least three major factors: the subject-matter, the method, and the learner. These three factors are of equal importance, and any attempt to subordinate or lose sight of any of them is unjustifiable in the light of our modern knowledge of educative methods. When we consider the learner as an important factor in the teaching process, then we begin to eliminate certain phases of our traditional subject-matter and change our method of teaching. Much has been eliminated from physiology, arithmetic, and grammar because we could not adapt certain topics to the individual or social needs of the learner. In the teaching of penmanship we have changed our method and said good-by to the old-fashioned copybook; in spelling we have cut our word list from 10,000 to 3000 or 4000 words; and children today are no longer taught to read by the A B C method.

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[1] "Project Teaching," *Elementary School Journal*, Vol. XXII, pages 335-45.

The project method aims to present in school problems not different from those in life; to make it impossible for the child to live two distinct lives, one in school and the other out; to prevent subject-matter from being isolated from the situations requiring its use. The need for training in thinking is doubtless one of the causes for the present interest in the project method. The movement in the direction of the project method is a protest against the traditional type of teaching which consists largely of mere memorizing on the part of the pupil and "pouring in" on the part of the teacher.

Kilpatrick[1] interprets the project as referring "to any kind or variety of life experience which is in fact actuated by a dominating purpose." According to this interpretation, the attitude of the learner determines whether or not an activity is a project. The essence of a project is an effective dominating purpose.

Education based on purposeful activities and direct interests prepares best for life and at the same time constitutes worthy living itself. The worthy life consists of purposeful activity and not mere drifting; or as Kilpatrick says:

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[1] *Teachers College Record*, Vol. XXII, page 283.

> We scorn the man who passively accepts what "fate" or mere chance brings to him. We admire the man who is master of his fate, who with deliberate regard for a total situation forms clear and far-reaching purposes, who plans and executes with nice care the purposes so formed. A man who habitually so regulates his life with reference to worthy social aims meets at once the demands for practical efficiency and of moral responsibility. Such a one presents the ideal of democratic citizenship. . . . If the purposeful act be in reality the typical unit of the worthy life, then it follows that to base education on purposeful acts is exactly to identify the process of education with worthy living itself. The two become then the same.[1]

Individual and group projects. In an individual project the undertaking is a result of the purposing of one person who feels the need of solving the problem and is directly interested in it; who devises, evaluates, and executes the plans necessary for the attainment of the end or the purpose. Individual projects may be found in an arithmetic class when a pupil sees a real vital need for learning certain number combinations in order to participate in a game; or when a boy feels a real need to know certain facts in order to take his position as cashier in the school savings bank or as treasurer of some of the school organizations. An individual project may be found in the English class when the pupil feels a real vital need for learning to correct certain of his language errors. Individual projects are found in any class where the pupil feels a real need, a dominating purpose, for solving the problems presented.

In a group or class project several unite in a common purpose, and we have a purposing group who devise, evaluate, and execute the plans necessary for the attainment of the end or purpose. A true group project is found where all the members of a group or class have a dominant purpose and a direct interest in the process as well as the outcome. The present tendency seems to be to emphasize group projects in the classroom. They present a splendid opportunity to teach boys and girls how to work together and to share each other's purposes and problems. The group projects also present opportunities for leadership and coöperation. Pupils learn to become leaders and at other times to subordinate themselves in the attainment of a common purpose or end. The following is an example of a group project in dramatization and reading:

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[1] *The Project Method*, page 6.

A Group Project in Dramatization[1]

The fourth grade read the story, "Proserpina or the Pomegranate Seeds." The motive for the reading was the pupils' desire to find a story which they might dramatize for the Training School assembly.

After reading the story the pupils decided that it could be used. They then started the writing of the play as group work. They used parts of the conversation in the "reader," but where the action was carried along by narration the pupils provided conversation for the actors. Sometimes four or five paragraphs, differing somewhat, were suggested by pupils. All paragraphs were written on the board and the children read the conversation immediately preceding and judged which was the best. A selection was made by vote of the class. In this work the pupils criticized sentence structure and choice of words. As the play was written scene by scene the pupils copied it. Here was given an opportunity to teach the use of capital letters, periods, question marks, exclamation points, quotation marks, and margins.

The pupils had had some previous study of the Greek gods and goddesses. Because of this the story in the reader was changed somewhat by having Ceres go to Mt. Olympus to ask Father Zeus to help her find Proserpina. This gave an opportunity to put into the play many of the gods and goddesses.

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[1] This project was worked out under the direction of Mrs. Susan Van Meter, Fourth Grade Training Teacher, Colorado State Teachers College.

After the play was written, each child had his copy, and the play was then used as a reading lesson. The motive for this was to get a clear idea of the play as a whole.

Then came the "try outs." Each child chose the part he wanted to "try out" for. The class voted for the one they thought best. Those who did not have speaking parts chose what other roles they wanted. Two pupils chose to pull the curtains and to be property men rather than act in any of the scenes.

After the pupils knew their parts the next step was to have practice on the stage. This brought up the question of what settings were needed, and the pupils suggested what would be suitable. The stage settings were worked out in the art periods.

In order to decide how the characters were to be costumed, books containing pictures of Greek gods and mythical characters were brought to the Training School from the main library. A pupil looked in the index to find the character he represented, and from the text and the pictures he decided what he needed to wear.

This group project began with a conscious setting up of an end or purpose, and presented many difficulties which the group set out to remove. Devising, evaluating, and executing plans made possible the removing of the difficulties and the attainment of the end. One of the major problems was to provide conversation where the action was carried along by narration. This involved the selection and elimination of various contributions made by the members of the class. The selection of characters, costumes, and stage settings provided additional opportunity for the evaluation and execution of plans which made possible the goal or purpose. The knowledges, skills, and attitudes developed during the undertaking were of real educative value, for they were used in the solution of a life problem. The children received splendid drill in penmanship, spelling, oral and written language, for these were so naturally related to the problem as to require no artificial motivation or incentive. This project also made it possible for the children to enlarge their experience by coming naturally in contact with many different source-books, references, pictures, etc. Perhaps one of the outstanding characteristics of the project was the fact that it provided for a group coöperative enterprise having real social significance.

The utilization of the interests of children. While the project method is an attempt to utilize direct interests and whole-hearted purposes of the child, it should not be forgotten that all the purposes and interests of the child are not of the same educative value. Therefore it is the duty of the teacher to select those purposes which have the greatest educative worth. An interest or purpose is of educative value just to the extent that it develops higher levels of interests; just to the extent that it lends a greater significance to the facts of everyday living. Some interests may lead to almost nothing of value. The child expresses many interests which, if indulged, may result in bad habits and undesirable attitudes. We are all agreed that when the child's interests interfere with the welfare of others and of himself they must be checked. The real function of a teacher is to assist the child in conceiving and selecting worthy purposes for, as Kilpatrick says:

> If the guidance is wise, the child should increasingly come to weigh the consequence of his contemplated acts and to choose in the light of proper considerations, moral or prudential, as the case may be. In this way freedom is to be a gradual achievement, free choice and responsibility being more frequently accorded as increasing age and growth show their proper exercise to be feasible.[1]

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[1] *The Project Method*, page 317.

The curriculum and the project method. The curriculum is made up of materials which adults assume to be of permanent worth, but the difficult problem is for the teacher to present them in such a way as to make the child realize their worth or value. According to the old disciplinary conception of education, it made little difference whether the learner appreciated the value of the material or not; even if he did not like it, it was good for him. The new "soft pedagogy," while emphasizing immediate pleasures, has tended to obscure the necessity of a feeling of worth or a sense of values. The former tendency emphasizes blind conformity and subservience, the latter makes the child a creature of every passing whim or fancy.

The project method is an attempt to enable the teacher to present his material in such a way that it appeals to the learner as having sufficient worth to demand serious effort. The child with his limited experience cannot be expected to appreciate remote interests; therefore it is necessary that the materials first presented shall develop from his childish sense of value. But as he grows and develops it is foolish to continue forever to treat him as if he could not by any possibility distinguish between immediate and somewhat remote interests. As a matter of fact, the real growth and development of the child will depend upon his ability to appreciate remote interests.

Some possible advantages of the project method. The project method should react favorably on the course of study, eliminating much that is formal and abstract. It should emphazise the material that can be made a part of the experience of the child and that will make provision for securing a progressive enrichment of life. Here are some of the possible advantages of the project method:

1. Creates enthusiasm and interest in school work.
2. Develops a sense of responsibility on the part of pupils.
3. Enables pupils to see the reason, aim, or purpose of doing things.
4. Encourages open-mindedness and independent thinking.
5. Unifies school life with real life.
6. Provides an opportunity for team work, and group coöperation through class discussions, debates, reports, and experiments.
7. Supplements the textbook by use of reference books, bulletins, magazines, newspapers, etc.
8. Utilizes purposes, interests, and previously acquired experiences of the pupil.
9. Develops pupil ability in conceiving and selecting worthy purposes.
10. Presents subject-matter so that it appeals to the learner as having sufficient worth to demand serious effort.

The Making of Lesson Plans

In classroom practice there are three major questions confronting every teacher: *What* is to be taught? *How* is it to be taught? *Why* is it to be taught? Daily preparation and systematic lesson planning are essential to efficient teaching. Many teachers fail because they do not determine in advance of their recitations just what they are going to do or how they are going to do it.

The lesson plan is a device to secure a systematic, definite preparation and thorough organization of the lesson before the recitation. The form given below is merely suggestive, for the teacher should be free to bend the device to the purpose it is intended to serve. A plan may be a help or a hindrance according to the way it is used. If the teacher mechanically follows the plan, disregarding the needs of the class—the unexpected knowledge or lack of knowledge shown, and the questions asked—the plan becomes an obstacle to really vital teaching.

Steps in Planning a Lesson

I. Preparatory step.
   1. Former ideas and activities which serve as an introduction to the new topic or problem. Related ideas recalled to form the base for the understanding of the new knowledge or experience to be formed.
      (*a*) Questions, conversation, or review of former activities to help the pupil recall or reorganize previous ideas or experiences which are necessary as a basis for the new knowledge and experience.
   2. The preparatory step, which should lead the class to desire the new work, and out of which should come the aim or problem.

II. Problem presented.
   1. The specific purpose to be accomplished through the subject-matter or material involved.
   2. Location of the pupil's aim or problem through the discovery of the center of his interests and through the bringing of his need to a focus.
   3. Discovery of the means of making pupils conscious of the problem or the end for which they are to work.

III. Methods.
   1. Means by which the teacher proposes to accomplish the aim or solve the problem.
   2. Means by which pupils will gain and organize the new knowledge and experience.
      (*a*) Subject-matter, illustrations, review, drill, assignments, questions, motor activities, skill, illustrative material, observations, experimentation, reading, telling, etc.

IV. Problems solved or material summarized.
   1. Results which the teacher expects as a consequence of the new topic or problem.

This lesson plan is not to be thought of as consisting of four logically organized steps following each other in the order named; but rather as the statement and explanation of four important processes necessary in the planning of any lesson.

Every lesson should have a beginning or introduction, and the best way to begin is to recall former ideas and activities of the pupils which serve as an introduction, a preparatory step, to the new topic or problem to be presented. We always interpret the new in terms of the old. Through the preparatory step there is developed in the pupil a consciousness and a feeling of need for the problem or new topic. The introduction to any lesson should lead the class to see what needs to be done and should develop a real desire on their part to do it. The method is not the third step in our lesson plan, but rather it is the means by which the teacher conducts the lesson. In Chapter VII we learned that method was simply the name for the activities engaged in by the teacher and the class. Method, then, is the means or the way by which the pupils will gain and organize the new knowledge or experience which the lesson furnishes; the way the teacher selects and organizes the subject-matter to be taught; the way he selects and uses the types of teaching in handling the subject-matter. The fourth stage of the lesson is the end or conclusion. Here we find the problem solved or the material summarized—the results that the teacher set out to reach. This important step enables the teacher to see whether he has succeeded in teaching the lesson as he had planned. It enables him to evaluate his work and measure the results of his teaching. Many teachers merely carry on the classroom activities with never an attempt to estimate the effect of their efforts. The wise teacher always thoughtfully diagnoses the results of his work and devises plans to remedy the weaknesses that he finds.

A Tentative Outline for Planning a Daily Lesson

I. What will you teach today? Be specific. Differentiate this from all other lessons.

II. What is the function of today's work?
   1. As a step in the teaching of the whole unit?
   2. Aside from this relation, has it any special value?

III. What books or other material will be needed?

IV. How will you teach this subject matter?
   1. How will the need for this subject matter or activity be developed, or its value made apparent? Suggestive question: In what life situation, real or imagined, can the child be placed so that this need or value will develop? It must be kept in mind that the children's interests are not confined to the learning of new material. They may feel the need of drill so that they may do well what they now do imperfectly, or that they may organize knowledge which they already possess.
   2. As an outgrowth of the feeling of the need developed above, what aim shall the pupils state to guide them in their work?
   3. What are the main steps in the solution of the problem which is before the class? The chief points of appreciation in case the lesson is chiefly for appreciation?
   4. After the pupils have completed the solution of their problem, or after they have had the opportunity to appreciate the experience of which this unit of subject matter consists, how will the experience just gone through be perfected?
      (*a*) So that it may be remembered?
      (*b*) So that it may receive the best organization for future use?

This tentative outline for planning a daily lesson shows clearly the three major problems in classroom practice confronting every teacher. *What* is to be taught? *How* is it to be taught? *Why* is it to be taught? The first question, "What will you teach today?" emphasizes the importance of the teacher's having a clear idea of the problem he is going to present to his class. If you don't know where you are going you won't know how to go; or when you get there. And in a like manner, unless the teacher knows definitely what he is going to teach, he will not know how to teach it or whether he has taught it successfully. He cannot evaluate the results of his work. The second question, "What is the function of today's work?" emphasizes the important factor, *why?* Every teacher should be able to answer definitely and concretely why he is going to teach a given lesson. Will it function as a necessary step in the teaching of a whole unit? Does it prepare for more complicated work, just as addition prepares for multiplication? Will it function in giving a fuller significance to the facts of everyday life? Will it function in developing a real joy in the doing? Unless the teacher knows *why* he is teaching a lesson, it is very doubtful if that lesson will have much significance either to the class or to himself.

Teachers must justify their teaching; there must be a reason. Teaching must be justified on sound educational grounds, for we can no longer do so on any vague, traditional, abstract, or mysterious basis. Much of our teaching is based on a kind of "faith." We don't know just why we are going to teach a lesson, but we hope it will do the pupil some good. It may not do him any good, we think, but it won't do any harm. And then there is the old disciplinary idea that if we can make the work disagreeable enough, it will do the boy good. But what good?

Whenever teachers can think of no valid reason why they are teaching any given subject, they seek to justify themselves on the ground that it will discipline and strengthen the mind of the pupil. And yet, if you were to ask these teachers what the mind is, and how it works, you would probably find that their conception of the mind was vague, abstract, mysterious, and contrary to the modern psychological conception. There are a large number of teachers who answer the *why* by saying that it is in the textbook. And why is it in the textbook? Because it has always been in the textbook. Some teachers are tradition-bound and custom-caked. The reasons we give for teaching any subject or any particular lesson must be in accord with the aims of education, the needs of the child, and the nature of the subject-matter. Every teacher must therefore have a sound philosophy of education, a sympathetic working knowledge of the child, and a broad grasp and appreciation of the subject he is teaching.

The third major problem in lesson planning is emphasized in the fourth question, "How will you teach this subject-matter?" This is the fundamental problem of method which we discussed in Chapter VII. We shall not enter into a further discussion of this problem at this time. We would suggest that the student read again the sub-topics under Question 4 in the tentative outline for planning a daily lesson.

Lesson planning can never safely be discontinued. Complete plans are necessary until the technique of teaching reaches a place where listing of details becomes unnecessary. A lesson plan should gradually come to consist of a statement of the teacher's aims, a few large topics, and the questions which introduce them.

Questions and Problems

1. Count the number of questions asked by a teacher during a recitation of thirty or forty minutes. What is your conclusion?

2. Secure several lists of examination questions and estimate the percentage of thought-provoking and of memory questions.

3. One investigator has found that pupils do better when working in groups than when working alone. If these findings are generally true, what influence should this have on classroom practice?

4. The function of the school is to impart knowledge and information, as the child has plenty of opportunity outside the school to develop his social nature. Is this statement reflected in any school system with which you are acquainted? Is it in accord with the modern conception of the school? Can you reconcile the two apparently opposite views of this theory?

5. Name five characteristics of a good recitation.

6. Give an illustration of each of the three types of teaching mentioned by Strayer and Engelhardt (page 129).

7. Of the ten types of teaching exercises listed by Earhart (page 130) with which ones are you least familiar? Give the reason for this.

8. Cite an illustration showing that in a given lesson several different types of teaching may be involved.

9. What is the main difference between the narrow and the broad interpretation of the project method?

10. How do you account for the present interest in the project method?

11. Why is a lesson plan necessary?

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CHAPTER IX

MEASURING IN EDUCATION

Development of Exact Units of Measure

Exact units of measure are of recent origin; as late as 1854 an English commission established the yard and defined its length as a unit of measure. In spite of the newness of exact standards of measurement, today practically every phase of economic life is measured. The farmer no longer tells you that he thinks his wheat crop is better this year than it was last year, but he knows exactly in terms of bushels per acre. Certainty has replaced guesswork in every line of business.

Before exact units of measure were determined, all distances, weights, and other measurable quantities were estimated. The distance between two places was reckoned as so many days' journey. Shorter distances were designated as cubits, and a cubit was defined as the distance between the elbow and the third finger. The width of the palm and the length of the pace were also common measures. The trouble with all of these units was that they varied with different users. The distance between two places was not always said to be the same by different travelers. The man with long arms and legs could stretch the cubit and the pace to such a length that they could not be compared to those of a small man. Consequently, as civilization advanced it was found necessary to have some standards of measure that would be the same no matter who used them. It is no longer practical to speak of taking a "three days' journey into the wilderness." Houses are not planned to be seven cubits high and the real height left to be determined by the length of the builder's arm as a unit of measure.

One of the last organizations to develop standard measures was education. For years it was possible to estimate only roughly brightness, dullness, progress, and accomplishments. Today, however, a new field is being developed in education. It is no longer necessary to guess, because units of measure have been worked out. There are two separate fields to be dealt with in the discussion of measuring in education. One field deals with native intelligence, and the other with the products of education. They are generally designated as (1) intelligence tests, and (2) educational tests. Intelligence tests are constructed so as to measure native intelligence. Educational tests are used to measure the amount of a certain subject that has been learned. Intelligence tests help to predict the work that can be done. Educational tests measure the work that has been done.

INTELLIGENCE TESTS

The Binet Test and the Stanford Revision. Binet, a French psychologist, made in 1904 the first intelligence tests. The method was crude, but it induced other psychologists to start working in the measurement field. The Binet tests were brought to America and revised to meet the needs of American children. The chief American revision was made at Stanford Jr. University by Dr. L. M. Terman and his associates. The product of their work is known as the Stanford Revision,[1] and is the most accurate instrument for measuring intelligence that is available at the present time.

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[1] Terman, L. M., *The Measurement of Intelligence.*

LEWIS MADISON TERMAN

Lewis Madison Terman is noted as an educational psychologist. His greatest contribution to the field of education is the Stanford Revision of the Binet Mental Tests. He was a pioneer in the field of mental measurements and is still one of its most noted leaders.

In a book such as this it is impracticable to attempt to describe the Binet method. It should be said, however, that the score of the test is expressed as a mental age. If a child has a mental age of ten years, it means that he has the mental development of an average ten-year-old child. Mental age as a unit of measure is very easy to comprehend.

Another important measure of the Binet test is the Intelligent Quotient (I. Q.), which is the percentage of intelligence possessed by the child being measured. If a child has a life age of ten years and a mental age of eight years, he has an I. Q. of 80. I. Q. is always obtained by dividing mental age by life age. A child with a mental age of twelve and a life age of eight has an I. Q. of 150. Mental age tells how far the child has developed mentally; I. Q. tells how bright he is. Mental age increases as a child matures; I. Q. remains practically constant. If a child is bright at eight years, he will still be bright at twelve. If a child is feeble-minded while young, he is practically certain to be feeble-minded always.

It has been demonstrated that, other things being equal, a child with a high I. Q. does better school work than a child of the same age with a low I. Q. It is evident, then, that knowing the I. Q. of a child is of great help in predicting the school progress he should make. From the definition of I. Q. it can be seen that if a child is normal mentally, his I. Q. should be practically 100. In practice, a child is considered normal if his I. Q. falls between 95 and 105. Above this mark a child is said to be superior, and below, inferior. A child whose I. Q. is 70 or below is classed as feeble-minded.

The Stanford Revision must be given by one who is thoroughly trained in its manipulation. It must be given to one child at a time. It takes about an hour to arrive at a score. Hence this is a costly method to use in determining the intelligence of a large number of children, but it produces results that are accurate and dependable.

Group intelligence tests. In order to overcome the cost of diagnosis with individual tests, group tests have been devised. The first group test was constructed by Dr. Arthur S. Otis, who was working at that time in the Stanford University laboratory.

The war gave a great impetus to group testing. The Psychological Division of the United States Army, created during the war, devised the Alpha and the Beta mental tests and measured many thousand recruits. The Alpha test was made for literates and the Beta for illiterates. The results in the army were so satisfactory that since the end of the war group testing in education and business has developed at a tremendous rate. At the present time there are a large number of group mental tests on the market. Some of these tests are for kindergarten children, some for the first grade, and many for the elementary grades, junior and senior high school, and college students.

In a book such as this it is inadvisable to present a discussion of how these tests are made. It is also inadvisable to reproduce any of the material. Those interested in the field will find a complete discussion and explanation in any modern book on the subject. It is also possible to obtain copies of the tests from the various publishing companies. It is the purpose of this chapter to give only a general idea of this new field and some of the uses of results.

The use of intelligence tests. Intelligence tests have pointed out a very bad condition in our schools. When these tests are given to all the children in a grade, it is found that the mental development varies greatly. In every ordinary grade, children are found so immature that the work is much too hard for them. The same grade also contains those who are so mature mentally that the work is much too easy for them. Of course, there are many children in each grade who are getting the type of work they can do well. Thus, as a result of these tests it seems to be pretty clearly shown that about one-fourth to one-half of the children in the average grade, who are trying to do the usual work, are unable to master it fully.

As an attempt at a solution of this problem the suggestion was made that children should be graded by mental age. A child with a mental age of twelve can do sixth grade work. The conclusion was, therefore, that he should be in the sixth grade, no matter whether he was sixteen years or eight years of age. Hence the procedure was to test children and then place them in the grade that most nearly coincided with their mental age. This work helped matters to a certain extent. It put children into grades where they could work, and made the task of the teacher much easier. However, it developed a new problem. It put children of different life and social ages together. A child of six, if bright enough, would be advanced to the third or fourth grade. Here he would associate with a large number of nine-year-olds and even with children who were twelve and thirteen. It also put children in the senior high school at a very early age. A child of ten with an I. Q. of 150 would, of course, if graded strictly on the mental age basis, be put in the tenth grade of the senior high school.

Promotion on the basis of mental age is now being discouraged. It is thought best to keep children of the same life and social age rather closely together. One reason why this is necessary is found in the junior high school. The basic principle of the junior high school idea is that it puts children of the adolescent age together. If children are graded on mental age only, they will be promoted into the junior high school at degrees of maturity ranging from pre-adolescence to adolescence already four or five years attained.

At the present time it is thought best to keep children of the same life age together. When a large group of children enter the first grade, instead of putting the brightest immediately into the second grade, it is thought best to keep them in the first grade and give them an enriched curriculum. A first grade, then, should have as many different types of work as there are levels of intelligence. This same idea, when carried through the other grades, puts all children into the junior high school at about the age of twelve. Here the work can still be differentiated according to the types of intelligence.

An example can be given from a junior high school in Denver. A 7B class that entered this junior high school was large enough to make seven sections of 7B English. Instead of making up these sections in a hit-or-miss fashion, they were made up on the basis of intelligence tests. Thirty children who were the brightest were put into one group, the thirty dullest into another, and the remainder of the children were divided in like manner into classes each of uniform intelligence. This classification on the basis of intelligence made it possible to vary the work to suit the type of intelligence. Similar classifications have been made in Oakland, California, Detroit, Michigan, and in many other places.

The intelligence tests are being used widely also in colleges and universities. In the Colorado State Teachers College students take the Thorndike College Entrance Intelligence test. If a student wishes to take more than sixteen credit hours per quarter, a superior score

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on the Thorndike test must be made. This has proved to be a most satisfactory means of regulating the amount of work taken.

Cautions concerning tests. A large amount of money has been wasted in buying and administering intelligence tests, because many people have given them who are not qualified to interpret the results. The Stanford Revision of the Binet test should never be administered by anyone but a trained psychologist or by a teacher who has had a thorough course in the giving, scoring, and interpreting of this test. Group intelligence tests should never be given unless the person in charge has had extensive training in psychology, particularly in the field of mental tests and statistics.

After the scores have been computed and utilized, the teacher must assume a professional attitude toward the results. A doctor will not tell a friend the intimate details concerning a patient. A banker will not give information concerning the amount of money a man has on deposit. A lawyer will not discuss with you the legal tangle of a client. These are illustrations of professional attitudes. The teacher must have the same professional attitude in order to safeguard properly the intelligence test results which are available to him. He should never discuss the intelligence of a child with anyone except his supervisor or principal. Children should never be informed concerning their mental age or I. Q. If these simple rules are observed, more can be done with mental tests than is possible to do where no caution is taken and where the teachers have no professional ideals.

EDUCATIONAL TESTS

Kinds of educational tests. Educational tests are used to measure some of the products of education. In the past this has been done ineffectively. It is true that at the end of each month the teacher sent to the home a card showing that the child had made a grade of 82 in one subject, 92 in another, etc. However, these marks were based on unscientific observation. A mark of 90 by one teacher might be equal to a mark of 70 by another, because there was no common basis of agreement as to what constituted a mark.

Many teachers do not realize the inaccuracy of school gradings, and most teachers do not realize how widely they differ from other teachers in the value of a grade. In order to demonstrate the truth of this statement to a group of teachers, the author of this chapter tried an experiment with thirty-three experienced teachers. They were gathered together in a summer school class, and all of them had taught in the elementary grades during the previous year. Most of them stoutly maintained that they could mark in percentages, and mark accurately.

To correct this impression the following experiment was tried. The teachers were asked to mark an arithmetic examination paper. This paper was written in the fourth grade and was selected at random from a large number of papers on the same examination. Each teacher was asked to read the questions and answers, and mark the paper to the best of his ability. Because each teacher had been marking arithmetic papers in the fourth grade during the year, the experiment evidently was a fair one. The results are shown below:

Marks Given a Fourth-Grade Arithmetic Paper by 33 Teachers

Mark	*Frequency*	*Mark*	*Frequency*
32	1	60	2
41	1	63	2
43	1	65	1

Mark	*Frequency*	*Mark*	*Frequency*
44	1	66	1
46	1	69	1
47	1	70	5
50	2	72	2
51	1	74	1
54	1	75	1
55	2	78	2
57	1	82	1
59	1		

Thus one teacher marked the paper 32 per cent, while another marked it 82 per cent, and the other gradings were scattered in the whole range between the two extremes. Did the pupil pass the examination? It all depends on which teacher's mark was considered just. These teachers could measure inches, miles, pounds, or quarts with accuracy because they had an exact unit of measure. However, they disagreed on the quality of arithmetic knowledge shown in a simple paper, because of an utter lack of any common standard of judgment. If this is true in arithmetic, conditions must be worse in other subjects which are less objective and hence far more difficult to grade.

A large number of studies have been made of school marks. It is interesting to note that each of these investigators has concluded that percentage marks given by teachers are very inaccurate. It was in order to overcome such inaccuracy of school marks and to guard against the inability of teachers to judge the quality of work done by a pupil, that educational tests were devised. These educational tests measure the child's knowledge of a given subject or his ability to do a certain skillful operation.

The first test was a writing scale made in 1910 by Thorndike. Since that time a large number of writing scales have been made. These are very simple affairs. They consist of a number of specimens of writing arranged in order of merit. At one end of the scale is the best writing, and at the other end the poorest. To judge the quality of a child's writing, the teacher takes a sample and determines which specimen the sample most resembles in merit. This is the quality rating. If a teacher sees on a report card that a child's writing is marked 82 per cent for last month, it means nothing to him; but if he sees on the record card that the child was writing "Quality 10" on a certain scale, it means a certain definite thing. By marking a child's writing once a month it is possible to determine progress as improvement takes place. The teacher may also get a speed score by having the child write a certain known sentence as many times as possible in a given time, usually two or three minutes. When the teacher knows the speed and quality of writing for each child each month, it is possible to direct intelligently the writing drill.

The best known spelling scale was made by Dr. L. P. Ayres. This scale is made up of the one hundred most common words in the English language. They were selected as the result of extensive experiments and were arranged in columns containing words of approximately equal spelling difficulty. At the top of each column is a table giving the percentage that should be correctly spelled in each grade. If a teacher wishes to give a test, he selects his words from a single column. They are then spelled by the children and the results compared with the standards. It is thus possible for a teacher to know how his grade compares with other grades in spelling accomplishment.

The Thorndike-McCall Reading Test is one of the best examples of a good reading test. A paragraph is presented for the child to read, and a list of questions concerning the thought of the paragraph is answered. The child's score is based on the number of correct answers given.

Many tests have been made to measure arithmetic. One of the earliest and best was made by S. A. Courtis. The Courtis tests measure skill in the fundamental operations. One test presents a page of addition problems of equal difficulty. The child does as many of the problems as he can correctly add in a given time. Another page of the Courtis test presents subtraction problems of equal difficulty, and the other two pages deal in the same manner with multiplication and division. By the use of this test it is possible for a teacher to know the individual differences within his class and how the class compares with other classes of the same grade in the same and other cities.

The Woody arithmetic scale is based upon a different principle. In his scale the addition problems are arranged in order of difficulty, the first problem being very easy, the next one more difficult, and the other problems each increasing in difficulty. A child taking the test works the problems until he arrives at those that are too difficult for him to solve. The division, multiplication, and subtraction problems in the Woody scale are made up in like manner.

Scales have been devised for measuring the product of education in practically every elementary and high-school subject. The above brief descriptions of the scales used in writing, spelling, reading, and arithmetic will illustrate the general principle. The student who wishes detailed information concerning these scales, or a list of other scales, should consult the references at the end of the chapter.

The use of educational tests. The first general principle to be laid down in the use of educational tests is that they should be given only when there is a definite problem to solve which cannot be better solved by some other means. In the past teachers have given educational tests merely to satisfy their curiosity. This practice is inexcusable. If a teacher wishes to know how his children differ or if he wishes to know how his class differs from other classes, then there is a real reason for giving educational tests. There is only one method of determining how much the children in a grade know of a given subject and that is to give them a standardized test. There is only one method of finding out how much of a certain subject is learned in a given time, or how much skill has been acquired, and that is to give a test at the beginning and at the end of a stated period.

Through the use of educational tests it is possible to compare the work of schools in different parts of the country. Until tests were invented it was impossible to compare the work in arithmetic being done in Boston and Cleveland and in other cities. At the present time studies are being made every year in which the average scores for the various cities are compared. It was at first thought that this was the most important function of educational tests; but while it is valuable to know the quality of arithmetic work being done in your city and how it compares with other cities, it is much more important to know the individual differences among your pupils.

Educational tests make it possible to compare one grade with other like grades throughout the city. This must be done with great care. The children in school A may be much more intelligent than those in school B. Therefore it is unfair to compare the results of the work done in these two schools. However, when there are two sections of the same grade in the same school or where two schools have the same type of children, a comparison of this sort is not only interesting but sheds valuable light on the effectiveness of the teaching being done in these grades.

Educational tests help the teacher to balance his time correctly. There are certain traditional programs in our schools. In some cities more time is given to arithmetic than in other cities. The question that the school man must ask himself is, "Is this justifiable?" By comparing the results of the arithmetic teaching it is possible to arrive at an accurate conclusion. In the Salt Lake survey it was found that school children there do better work in spelling and arithmetic than in most cities. However, the program shows that they are spending an excessive amount of time on these subjects. The conclusion was then reached that, "At least one-fourth more time is given to spelling and more than one-fourth more to arithmetic than is justified in the light of the best knowledge of the subject." In the same survey it was suggested that hardly enough time was devoted to the teaching of hygiene, which led to the conclusion that, "The results of this rather extreme attention to spelling show in a very high score; but it is a question whether the children of Salt Lake City are not sacrificing something in other lines by devoting so large a proportion of the total time available to spelling." Educational tests make such comparison possible.

The above are but a few of the advantages that come from giving these standardized educational tests, which are being used in practically every school system of the country. But while these tests are being used to compare school systems with school systems, etc., their most important function today is to diagnose the differences found in a single class and to help the teacher find the weak spots in his teaching.

There may be a possible danger that the measurement movement in education, with its objective analysis, will make education more complicated and more mechanical. As was stated in Chapter VII we are apt to think of education as a manufacturing process with so many units of reading, geography, and arithmetic put into the machine and a finished product turned out—an educated individual. No matter how well selected and proportioned the mixture of raw material may be, or how well it is adapted to the capacity of the learner, unless worthy ideals, desires, and appreciations have been developed and transformed into spiritual and social forces, all is unavailing.

Professor C. L. Robbins of the University of Iowa gives us a most valuable word of warning when he says: "We should not permit ourselves to fall a prey to the suspicion that whatever cannot be measured and set down in mathematical terms must on that account be too vague to be worth serious effort."[1] Although we have no objective standards for measuring ideals, attitudes, and appreciations, it does not follow that efficient teaching should not be judged by the opportunity given for the formation and execution of such ideals, attitudes, and appreciations. It may be we need a further set of tests. However, we should remember that the amount of reproducible knowledge which the educational tests reveal, while of real value, should not be confused with the entire aim of education. The finest fruit of education is a sympathetic understanding of one's fellow men.

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[1] *The School as a Social Institution*, page 399.

Questions and Problems

1. What is the purpose of intelligence tests?
2. What is the difference between I. Q. and mental age?
3. Why is the individual intelligence test better than the group test?
4. Give some of the shortcomings of group intelligence tests. Some of the advantages.
5. Why is promotion on the mental age basis being discouraged?
6. Give four ways in which educational tests may be used.
7. Show how test results may be misinterpreted.
8. Show how educational tests may help a teacher to balance his time correctly.

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SUMMARY OF PART THREE

We have seen in Part Three that the teaching process may be analyzed into three fundamental factors: the principles of method, classroom practice, and measuring results.

Method, we found, is but another name for the activities engaged in by the teacher and the pupils. It has its foundations in the nature of the child, in the way he naturally learns things. Method takes every advantage of the self-activity of the child; it cannot be worked out apart from him. The function of method is to solve the following complicated problems: How can children learn to the best advantage? What can the teacher do to assist them in their learning? How does the child, ignorant, helpless, and dependent, finally become a useful member of society?

Chapter VIII explained some of the problems of classroom practice. Four important phases of this problem were discussed: The question as a factor in teaching, the various types of classroom exercises, the making of lesson plans, and the project method of teaching.

The point was emphasized that the question should not be merely a means of securing information for the teacher regarding the amount of the pupil's knowledge; it should rouse thought in the pupil's mind; it should be concerned primarily with *how* and *why*. Such types of questions are the result only of careful preparation on the part of the teacher.

The chapter also brought out the thought that all the types of teaching—lecture, object lesson, appreciation lesson, project, etc.—should be considered in the light of the great aim of education—namely, the largest possible growth in knowledge, ideals, and skills. The project method is an attempt to bring into the play the attitude of the learner, to make the pupil put into the learning process the voluntary active interest that he puts into other activities of his life.

The school life centers around the recitation, and the efficiency of the school is measured by the efficiency of its classroom practice.

Chapter IX dealt with the problem of scientifically measuring the results of teaching. Two types of standardized tests were described: educational or achievement tests, and intelligence or ability tests. The reader was cautioned to adopt a scientific attitude toward the use of the test. Only those who have had training in psychology should attempt to give and interpret intelligence tests. However, any teacher who will give the subject some study will find it rather easy to use them properly. Neither educational nor mental tests should be used excepting where there is a real problem to be solved.

In the first three parts of the book, the problems discussed have been the teacher, the child, and the teaching process. We are now ready for a discussion of the organization of the school and the curriculum where through the teaching process the teacher strives to develop the child to his fullest capacities.

PART FOUR

ORGANIZATION AND CURRICULUM

The Three Divisions of the American Public School System.

Reorganization of Elementary and Secondary Education.

Organization and Administration of the American Public Schools.

CHAPTER X

THE THREE DIVISIONS OF THE AMERICAN PUBLIC SCHOOL SYSTEM

THREE DIVISIONS—AN OLD ESTABLISHED FORM

The three divisions—elementary, secondary, and higher—which comprise the American school system, form an organization that has become almost universal among the countries providing a systematic education. There are wide differences, however, respecting the years embraced in each division and the articulation of the divisions. This three-fold arrangement was characteristic of the educational practices of ancient Greece. The first period beyond infancy, extending from the beginning of the sixth or eighth year to the end of the fourteenth or sixteenth year, was the period of school education; the second, extending from the beginning of the fourteenth or sixteenth year to the end of the twentieth or twenty-first, was the college education; and the third, from about the twentieth on, was devoted to university education.

The education of the Roman youth, a century or more before the Christian era, was also organized into this threefold arrangement. Upon reaching his sixth or seventh year the Roman child began his elementary instruction either at home or in a *ludus publicus,* where he learned reading, writing, and simple calculation. At about the age of twelve the boy was sent on into the school *grammaticus,* where he was instructed in grammar, in the narrower sense, learned by heart portions of Homer and other poets, and began the critical study of literature and composition. At the age of about sixteen the boy exchanged the *toga praetexta* for the *toga virilis*, a ceremony which marked the assumption of the responsibilities of manhood. His education then depended upon his future occupation.

The American public school system now stands, after three centuries of growth, complete in form only. There is still a great task to be done in the further unification and standardization of its work. Its three divisions—elementary, secondary, and higher education—are joined together, forming "The American educational ladder." By means of these divisions it is possible for a child of six to enter the elementary school, pass regularly from grade to grade, and finally to emerge, sixteen or eighteen years later, prepared, as far as academic study is concerned, to begin his life work.

THE DIVISION OF ELEMENTARY EDUCATION

Beginnings of elementary education. From the days of the earliest settlement the American colonists demanded that their children should have at least the rudiments of an education. However, the early colonial schools were poorly organized and instruction was meager and haphazard. In some towns the parents instructed their children at home or employed a young man or young woman to start them in reading and writing. In some places the minister became the schoolmaster. As late as 1817 the school committee of Boston denied a petition signed by one hundred sixteen inhabitants asking that primary schools be established at public expense. The committee defended their action on the ground that the establishment of such schools would be too expensive and "that most parents have some leisure time and few are unequal to the task of teaching the elements of letters."[1]

Much of the elementary instruction during the colonial period was given in vacant carpenter shops, in spare rooms in old dwellings, in unoccupied barns or basement rooms. The work offered in these schools was limited to the "three R's." The support of these primary schools was various and uncertain. Many of them were maintained for brief periods during the year and were supported by lotteries, land rentals, private subscriptions, or tuition. The school was often rotated from place to place within the community to meet the demand of those who settled at some distance from the center. In some towns it was kept for a third of the time at each end and a third in the middle. In some places it remained four months in each of three places, and sometimes a school was moved five times within a school year.

The further development of elementary education. Elementary education remained until the beginning of the nineteenth century informal, unsystematic, and voluntary in respect to both parents and community. The first real advance was made when the rotating school was superseded by the establishment of permanent schools. In 1789 permanent reading and writing schools were organized in Boston. The following arrangement, drawn up by a committee of which Samuel Adams was a member, gives an interesting picture of the first permanent school.

In Town Meeting, October 16, 1789

Voted, That there shall be one writing school at the south part of town, one at the center, and one at the north part; that in those schools the children of both sexes be taught writing and

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[1] *United States Commission of Education Report*, Vol. 2, pages 1225-39.

> also arithmetic in the various branches of (it) usually taught in the town schools, including vulgar and decimal fractions.
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> That there be one reading school at the south part of the town, one at the center, and one at the north part; that in those schools the children of both sexes be taught to spell, accent, and read both prose and verse, and also be instructed in English grammar and composition.
>
> That the children of both sexes be admitted into the reading and writing schools at the age of seven years, having previously received the instruction usual at women's schools; that they be allowed to continue in the reading and writing schools until the age of fourteen, the boys attending the year round, the girls from the twentieth of April to the twentieth of October following; that they attend these schools alternately, at such times and subject to such changes as the visiting committee, in consultation with the masters, shall approve.[1]

In these schools the pupils were not graded according to age but according to subjects; that is, all pupils between the ages of seven and fourteen attended each school in turn. If a pupil attended the reading school in the morning, he attended the writing school in the afternoon and vice versa. By 1827 the school district changed from a unit created for mere social convenience to a political institution with power vested in its inhabitants to levy taxes, to hold meetings, to choose a clerk, to select a school site, to erect a building thereon, to enforce contracts, and to employ teachers.

The beginning of graded elementary schools. To secure any kind of grading in the schools of the rural communities and of the villages proved exceedingly difficult. In 1839 Henry Barnard wrote that "there was hardly an instance of the gradation of schools [in Connecticut] by which the evils of crowding children of different ages, of both sexes, in every variety of study and schoolbook, under a single teacher, were avoided."

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[1] *American Journal of Education*, Vol. 19, page 475.

Again he wrote:

> To enable children to derive the highest degree of benefit from their attendance at school, they should go through a regular course of training in a succession of classes and schools arranged according to similarity of age, standing, and attainments, under teachers possessing the qualifications best adapted to each grade of school. The practice has been almost universal in New England and in other states where the organization of the schools is based upon the division of territory into school districts to provide but one school for as many children of both sexes and of all ages, from four to sixteen years, as can be gathered in from certain territorial limits, into one apartment, under one teacher—a female teacher in summer and a male teacher in winter. The disadvantages of this practice, both to pupils and teachers, are great and manifold.[1]

As the school attendance of a given district increased, either through growth of population or through the consolidation of districts, the segregation was sometimes brought about by removing the older children to a point central to the joint district, while the younger children were left behind to attend at their several schools. Barnard gives us an interesting description of the arrangement:

> Provision is made [in the law] for the union of two or more districts, for the purpose of maintaining a union school for the older children of the associated districts, while the younger children are left to attend in the several districts under female teachers.
>
> The union of school districts thus authorized obviates many of the difficulties and evils of common schools as they are, and secures a much higher degree of improvement with the same means. In a large portion of the district schools the ages of the scholars range from 4 to 16, or, rather from 3 to 18. The studies extend from the first rudiments to the branches of an academical education; the classes are numerous as the various studies, increased by the variety of textbooks in the same branch; and the teachers are constantly changing from male to female, and from season to season.

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[1] *American Journal of Education,* Vol. I, page 669.

> Now the plan of union districts, leaving the younger children to themselves and including the older children together, cuts down by one-half the variety of ages, studies, and classes. It enables the teacher to adopt methods of classification, instruction, and government suited to each grade of school.[1]

This was the first step taken in the movement, not completed at the present day, toward unifying and standardizing the elementary school organization. The movement toward graded schools developed slowly at first, but by 1860 nearly every city and town of any consequence, as well as many populous rural communities, had its own unified system of elementary schools organized on a graded basis with a definite course of study.

THE DIVISION OF HIGHER EDUCATION[2]

The colonial colleges. Prior to the Revolutionary War there were nine colleges established in the American colonies. The colonial colleges were dominated by the religious influences of the time. At first it was the ministry only for which a college education was desired. Harvard was founded in part out of a "dread to leave an illiterate ministry to the churches when our present ministers shall lie in dust."[3] For 60 years it was little more than a training school for ministers. The application for a charter permitting the founding of the College of William and Mary was supported by the declaration that, "Virginians had souls to be saved as well as their English countrymen and that the institution was needed to prepare young men for the ministry."[4] While there was nothing in Yale's charter requiring a religious test for trustees, rectors, or tutors, yet those instrumental in its founding planned that it should be controlled by a synod of churches, and that it should be called the "School of the Church."[1] Though this plan was not fully executed, the initial steps in founding the college were taken by a body which comprised the principal clergymen of New Haven Colony. Of the six remaining colleges established before the Revolution, only one (Philadelphia Academy, merged into the University of Pennsylvania) was non-sectarian.

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[1] *American Journal of Education,* Vol. I, page 713.

[2] Much of this material is taken from Bulletin, 1916, No. 8, Bureau of Education, *Reorganization of the Public School System,* F. H. Bunker.

[3] *Massachusetts Historical Collections,* Vol. I, page 242.

[4] Boone, *Education in the United States,* page 34.

Princeton was founded primarily to secure a supply of ministers for the Presbyterian churches of Maryland, Virginia, and the middle colonies. While it was controlled by Presbyterians, there was a larger lay membership in its governing board than had obtained at Harvard, William and Mary, or Yale. The Philadelphia Academy embodied in its constitution the idea of Benjamin Franklin. In this constitution there is no mention made of religion, of the church, or of the ministry, and in this respect the institution expressed a significant modern note. Two-thirds of the first board of trustees of King's College (now Columbia) were communicants of the Church of England, and, while the college was founded nominally as a civil institution, the condition was exacted that the president of the college should be a member of the Episcopal church and that the religious service of the college should be from the liturgy of that church. Brown College (Providence, R. I.) was founded in response to definite and formal action taken by the Baptist Association of Philadelphia. Its charter opened the doors of the college to all denominations of Protestants, expressly prohibiting any religious test for its students, yet affirming its connection with the church by requiring the president to be a member of the Baptist church and placing the governing board under its control.

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[1] Boone, R., *Education in the United States*, page 38.

Dartmouth College was the outgrowth of a plan projected by the Rev. Eleazar Wheelock to train Indians of both sexes in religious and secular learning, and to send them back to their tribes to be teachers and preachers. One half of the first board of trustees were Congregational ministers and the other half civil authorities of the Connecticut Colony. The charter makes emphatic the original purpose of the institution—namely, "the spread of the Redeemer's Kingdom"; but it also makes clear that no one shall be excluded from its benefits because of denominational affiliations or because of religious beliefs. Queens College (now Rutgers) was founded by the Hollanders, adherents of the Reform faith, with a double purpose—to promote learning and to train clergymen for service in the New World.

It is difficult for us to realize how fully religious matters filled the minds of the men of that day and how profoundly the institutions which they established were thus influenced.

> More than one-half of the graduates of Harvard during the seventeenth century entered the ministry, and of the first 33 graduates of Yale 25 became preachers. An examination of the names of those who are listed as students in the Boston Latin School between the years 1635 and 1734 will show that of those whose life occupation is mentioned one-half belonged to the clergy.[1]

Following is a table of the colleges founded prior to 1800:[2]

	Institution	*Date*	*Character*
1.	Harvard (Mass.)	1637	Congregational
2.	William and Mary (Va.).........	1693	Episcopal
3.	Yale (Conn.)	1701	Congregational

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[1] Quoted by Bunker, F. F., in *Reorganization of the Public School System,* page 7.

[2] Boone, R., *Education in the United States,* page 77.

	Institution	*Date*	*Character*
4.	Princeton (N. J.)	1746	Presbyterian
5.	University of Pennsylvania	1749	Non-sectarian
6.	Columbia (N. Y.)	1754	Episcopal
7.	Brown (R. I.)	1764	Baptist
8.	Dartmouth (N. H.)	1769	Congregational
9.	Queens (Rutgers) (N. J.)	1770	Reformed
10.	Hampden-Sidney (Va.)	1776	Presbyterian
11.	Washington and Lee (Va.)	1782	Non-sectarian
12.	Washington University (Md.)	1782	Non-sectarian
13.	Dickinson (Penn.)	1783	M. Episcopal
14.	St. John's (Md.)	1784	Non-sectarian
15.	Nashville (Tenn.)	1785	Non-sectarian
16.	Georgetown (D. C.)	1789	R. Catholic
17.	University of North Carolina	1789	Non-sectarian
18.	University of Vermont	1791	Non-sectarian
19.	University of Eastern Tennessee	1792	Non-sectarian
20.	Williams (Mass.)	1793	Congregational
21.	Bowdoin (Me.)	1794	Non-sectarian
22.	Union (N. Y.)	1795	Non-sectarian
23.	Middlebury (Vt.)	1795	Congregational
24.	Frederick College (Md.)	1796	Non-sectarian

Rapid growth of colleges in the nineteenth century. While 24 colleges were founded prior to 1800, the most remarkable growth of the institutions of higher learning came in the nineteenth century. At the beginning of that century the 24 colleges had not more than 100 professors and instructors nor more than 2,000 students, and $1,000,000 would cover the aggregate value of college property. After 1820 new colleges developed rapidly. This pronounced interest of the nineteenth century in higher education was greatly stimulated by two provisions which the National Government made for the founding and support of higher education. The Ordinance of 1787 provided that two complete townships in each state formed from the public domain might be set apart for university purposes. Under the operation of this act every state admitted into the union since the year 1800, with the exception of Maine, Texas, and West Virginia, has received not less than two townships for the purpose of founding a university. The grants for institutions of higher learning under this law have aggregated more than a million acres.

The second provision by which the National Government encouraged the founding of such institutions was that called the Morrill Act, passed by Congress in 1862.

This act provided for a grant of 30,000 acres of land for each representative and senator in Congress. The grant conveyed in all 9,600,000 acres, and the amount raised from the sale of this land varying in different states from $50,000 to $750,000 was to be applied to institutions at which technical and agricultural branches should be taught. As a result, within 20 years, every state in the union had established such a school, either in connection with an existing college or as a new institution. Besides these grants, Congress gave to the several states (1850) certain swamp lands, aggregating nearly 48,000,000 acres. Some states—California for instance—appropriated their share to the university; others turned the proceeds into their general school fund. In consequence of the federal aid so generously given, colleges and universities multiplied with unprecedented rapidity. So rapidly, indeed, were they founded, that in a single century, while the population of the country increased six times, the number of instructors increased 170 times, the number of students 47 times, and the property and productive funds 200 times.[1]

Influence of colleges upon secondary schools. Under the influence of college and university, a large number of preparatory schools have grown up. Naturally the work of such schools has been shaped by the college ideal. As the college changed, so the preparatory school changed. As the college took on more work, it raised its admission standards and crowded more of its work back into the preparatory school. At the other end of the ladder stood the elementary school, at first satisfied merely with securing but a small degree of literacy, but becoming more ambitious and effective as time passed. As the elementary school grew more efficient, a demand developed for a school that should be more advanced and yet not necessarily preparatory to college. The colleges seeking a means of preparing their prospective students, and the elementary schools seeking to broaden their work, produced two opposing tendencies. The conflict that has resulted within the field of secondary education has been sharp and long continued, but out of it has come a distinctly American institution, the free public high school.

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[1] Bunker, F. F., *Reorganization of the Public School System,* page 8.

The Division of Secondary Education

Beginnings of secondary education. The secondary schools of the colonies, the so-called Latin-Grammar schools, closely resembled the Latin-Grammar schools of England. It was natural that these early colonial grammar schools should be similar to those of England, for many of the colonists had been trained in the English schools and universities.

The American colonists inherited from their English ancestors a purpose and a plan to provide such preparatory training for their talented sons as would enable them to pursue a college course successfully and later to assume honorable positions in Church and State; but it was left to the American people of the nineteenth century to devise and develop a system of free education that should give equal opportunity to all, regardless of sex, social position, or future purpose in life. Beginning with the Latin-Grammar school, founded at Cambridge, Massachusetts, in 1635, the course of development of American secondary education has been through the academy to the free public high school. The third century since the founding of Plymouth Colony has seen the general disappearance of the grammar school and the academy, and at the same time a phenomenal development of the public high school. A sharp delimitation of the periods of these three classes of schools cannot be made, but it may be said in general that the grammar school flourished from early colonial times till the Revolution; the academy from the Revolution till the Civil War; and the high school from that date till the present time.[1]

The Latin-Grammar school. The first secondary school in the colonies was the Boston-Latin school, established in 1635. The New Haven grammar school had a very suggestive set of rules governing it, and that school may be taken as typical of the work and spirit of the earlier schools of this class.

Orders of ye Committee of trustees for the Grammar Schoole at New Haven to be observed & attended in ye said Schoole, made, agreed upon & published in ye sd Schoole in ye yeare 1684.

1st, The erection of ye sd Schoole being principally for ye Institution of hopefull youth in ye Latin tongue, & other learned Languages soe far as to prepare such youths for ye College and publique service of ye Country in Church, & Commonwealth. The Chiefe work of ye Schoole-Mr. is to Instruct all such youth as are or may be by theire parents or Frinds, sent, or Committed unto him to yt end with all diligence, faithfullness, and Constancy out of any of ye townes of New haven upon his sallary accompt only, otherwise Gratis. And if any Boyes are sent to ye Mr. of ye said Schoole from any other part of ye Colony, or Country, Each such boy or youth to pay ten shillings to ye Mastr at or upon his entrance into ye said Schoole.

2nd, That noe Boyes be admitted into ye sd schoole for ye learning of English Books, but such as have ben before taught to spell ye letters well & begin to Read, thereby to perfect theire right Spelling, & Reading, or to learne to write, & Cypher for numeracion, & addicion, & noe further, & yt all others either too young & not instructed in letters & spelling, & all Girls be excluded as Improper & inconsistent with such a Grammar Schoole as ye law injoines, & is ye Designe of this Settlemt. And yt noe Boyes be admitted from other townes for ye learning of English, without liberty & specially licence from ye Committee.[2]

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[1] Brown, J. F., *The American High School*, page 1. Reprinted by permission of The Macmillan Company, publishers.

[2] *American Journal of Education*, Vol. IV, page 710.

The defects and characteristics of the Latin-Grammar school. The Latin-Grammar schools were never popular with the people at large. There was a law requiring that they be established and supported in towns having one hundred families; however, this was vigorously opposed by a considerable minority, and in some cases the town officials quietly paid the fine for non-compliance with the law. In other communities they tried to escape by reporting that they could find no teacher. People who wished their sons to go to college supported these schools, while those who could not afford to patronize the college were unable to see the benefit of such schools.

The Latin-Grammar school gradually passed away because it made a poor connection with the elementary school and because its course of study appealed only to those people who saw in it a means to enter the college. No attempt was made to form a close articulation between the elementary schools and the Latin-Grammar schools. The former scarcely looked beyond themselves, and the latter looked forward to the college.

The main characteristics of the grammar schools may be stated as follows: 1. They were established by the towns under colonial law. 2. They were small schools usually taught by one or two teachers. 3. These schools were free, though fees of some sort were usually paid except in the case of the poorest pupils. 4. Their main purpose was to prepare for college, and therefore the curriculum was made up for the most part of Latin and Greek. 5. Girls were not admitted, for few thought at this time that it was worth while educating them.

The academies. The academy, like the Latin-Grammar school, was of English origin. The earliest American academy was established at Philadelphia in 1761. It afterwards developed into the University of Pennsylvania. The courses of study in the academy at first showed much less dependence upon the college than did those of the Latin-Grammar schools. The academy was a finishing school and naturally was not so largely dominated by the influence of the university as was the grammar school. In the beginning there were two courses, one which prepared for college and the other which gave a practical preparation for life. The college preparatory course soon overshadowed the general course, and the academy in time became a college preparatory school, just as the Latin-Grammar school had been. The academy appealed to the people as far as its ideals and courses of study were concerned, but it declined and was replaced by the public high school because it was not free and made no organic connection with the elementary school. The academy and the elementary school had much in common; that is, they both looked, not to a higher school, but to the preparation of their pupils for the duties of practical life. The fact that the elementary schools were supported by public taxation, while the academies were private institutions, prevented a unity of management and concerted action on the part of the two schools.

Main characteristics of the academy. The particular characteristics of the American academies may be stated as follows: 1. They represented a protest against the narrow classical training afforded by the grammar schools. 2. They sought to give a substantial secondary education to young people regardless of whether they wished to go to college or not. 3. Their early development was almost entirely independent of the college, but they soon came to be dominated by the college and university. 4. They were organized and managed by private effort and supported, for the most part, by private funds, subscriptions, endowments, and tuition fees. 5. In most cases they admitted girls as well as boys. 6. They were animated by a broader, freer, more truly American spirit than the grammar schools, a spirit more in accord with the developing characteristics of American democracy. 7. The fact that they were managed by private effort and that they were not free prevented any organic connection with the public elementary schools and rendered them somewhat exclusive.

The high school. The high school, historically considered, is simply a continuation of the elementary school. The people appreciated the free elementary schools to such an extent that they were glad to tax themselves to afford a higher education which should continue training, not for college but for life. The first high school in the United States was founded at Boston in 1821. It was established under the name of The English Classical High School. The report of the school committee presents the existing situation of the times rather clearly:

> Though the present system of public education, and the magnificence with which it is supported, are highly beneficial and honorable to the Town; yet in the opinion of the Committee, it is susceptible of a greater degree of perfection and usefulness, without materially augmenting the weight of the public burdens. Till recently, our system occupied a middle station: it neither commenced with the rudiments of Education, nor extended to the higher branches of knowledge. This system was supported by the Town at a very great expense, and to be admitted to its advantages, certain preliminary qualifications were required at individual cost, which have the effect of excluding many children of the poor and unfortunate classes of the community from the benefits of a public education. The Town saw and felt this inconsistency in the plan, and have removed the defect by providing schools in which the children of the poor can be fitted for admission into the public seminaries. The mode of education now adopted, and the branches of knowledge that are taught at our English grammar schools, are not sufficiently extensive nor otherwise calculated to bring

the powers of the mind into operation nor to qualify a youth to fill usefully and respectably many of those stations, both public and private, in which it may be placed. A parent who wishes to give a child an education that shall fit him for active life, and shall serve as a foundation for eminence in his profession, whether Mercantile or Mechanical, is under the necessity of giving him a different education from any which our public schools can now furnish. Hence, many children are separated from their parents and sent to private academies in this vicinity, to acquire that instruction which cannot be obtained at the public seminaries.[1]

Democracy and the high school. The Latin-Grammar schools and the academies were entirely out of harmony with the growing spirit of American freedom and democracy. As a result there grew up a strong social demand for an ideal institution of a definite type, one that should be free and under public control like the grammar school and that should offer a practical course of study like the academy. There was a demand for education more than that provided by an elementary school, different in kind from that found in the grammar schools, and furnished at public expense. The free public high school came into existence to meet this demand. It developed rather slowly at first, but as its usefulness was recognized it grew rapidly.

The following table shows the growth of the public high schools from 1890 to 1920:[2]

	1890	*1900*	*1910*	*1920*
SCHOOLS	2,526	6,005	10,213	14,326
TEACHERS				
Men	3,597	10,172	18,890	34,396
Women	5,280	10,200	22,777	63,258
Total	8,877	20,372	41,667	97,654

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[1] Quoted by Brown, E. E., in *The Making of Our Middle School*, page 298.

[2] *Statistics of Public High Schools*, Bulletin, 1922, No. 37, Bureau of Education.

	1890	*1900*	*1910*	*1920*
STUDENTS[1]				
Boys	85,451	216,207	398,525	822,967
Girls	116,351	303,044	516,536	1,034,188
Total	201,802	519,251	915,061	1,857,155
GRADUATES				
Boys	7,692	22,575	43,657	90,516
Girls	14,190	39,162	67,706	140,386
Total	21,882	61,737	111,363	230,902

SUMMARY OF THE DEVELOPMENT OF THE THREE DIVISIONS

In the development of the three divisions of the American public school system we have seen that the colleges were the first to develop, then the elementary schools, and finally the high schools.

> The colleges extended downward into the Latin-Grammar schools as preparatory schools. The elementary schools extended upwards into the academies and later into the high schools as a means for the extension of a general, practical education. But neither the grammar school, the academy, nor the high school was at its origin regarded as the connecting link between the elementary schools and the colleges. The relation was an after-thought which the State University of Michigan did much to make effective. It is clear now, that in the nature of things, the free public high school was the only one of these three institutions which could survive and perform this function. It alone could serve the whole people alike, the rich and the poor, equally well those who desired to prepare [for college] and those who did not.[2]

The story of the development of the three divisions of the American public school system is, according to Bunker, a story of a conflict between two demands:

> that for a college preparation on the one hand, and on the other for a noncollegiate preparation extending beyond the ele-

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[1] Not including pupils in seventh and eighth grades in junior high schools.

[2] Brown, J. F., *The American High School*, pages 29-30. Reprinted by permission of The Macmillan Company, publishers.

mentary grades. As in every country developing a system of education, the colleges reached downward to find a means of preparation for the few, while the elementary schools reached upward in order to secure an extension of a general, practical education for the many. It has remained for America alone to develop an institution which has harmonized the two—the free public high school. Inasmuch, however, as each of the three divisions comprising the system sprang from separate and distinct sources and grew to considerable proportions independently of the others, and in response to the shaping power of different conditions, the whole which the fusing process of recent years has given us is complete in form only. In organic relation, in sharpness of province, and in distinctiveness of function, these divisions are not yet satisfactorily articulated.[1]

Questions and Problems

1. How do you account for the fact that the threefold arrangement of educational practices has been almost universal among the countries providing a systematic education?
2. How do you account for the three different and distinct origins of elementary, secondary, and higher education in America?
3. Suppose these three divisions (elementary, secondary, and higher) had all originated at the same time and from the same source. Would conditions today be any different?
4. Why did secondary education reach a much higher stage of development during the colonial period than did elementary education?
5. In what ways does the separate origin of the elementary school and the high school explain the difference today in the preparation and standing of high-school teachers and elementary teachers?
6. Show how the Latin-Grammar school and the academy were both opposed to the growing spirit of American freedom and democracy.
7. In what sense is the high school the "peoples' school"?
8. Does the modern high school have any of the characteristics of the Latin-Grammar school?

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[1] *Reorganization of the Public School System*, pages 1-2.

9. Why was it impossible for either the Latin-Grammar school or the academy to become the connecting link between the elementary schools and the colleges?

10. Why was the high school the only one of the three secondary institutions which could survive and become the connecting link between the elementary schools and the colleges?

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CHAPTER XI

REORGANIZATION OF ELEMENTARY AND SECONDARY EDUCATION

Divisions of the School Years

There is a growing tendency among school administrators to consider grades one to six, inclusive, as constituting the elementary school, and the secondary school period as commencing with the seventh grade and extending through the twelfth. The six years devoted to secondary education are divided into two periods of three years each, which are designated as the junior and the senior high schools, respectively. The six years of elementary education are to meet the needs of pupils of approximately six to twelve years of age, and the six years of secondary education are to meet the needs of pupils of approximately twelve to eighteen years of age.

The Elementary School

The aim and purpose of the elementary school. The elementary school, in connection with other social institutions such as the home, the church, the library, and the playground, takes the child at the age of five or six, and for six or eight years enlarges his experiences and strengthens his powers and capacities. Because of the child's immaturity, dependence upon others, and lack of social experience, the elementary school must give him the knowledge, attitudes, habits, and skills necessary for a highly developed social environment. The elementary school must realize that its purpose in educating boys and girls is to help them live more abundantly while they are boys and girls. Meeting each day's need of childhood is the best preparation for meeting the needs of adult life. Meriam says: "The great purpose of the elementary school is to help boys and girls do better in all those wholesome activities in which they normally engage."[1]

Bonser[2] considers the purpose of the elementary school is to provide experiences to meet the common needs of all, regardless of sex, vocation, or social status. Its content is made up of those activities in which everyone must participate with a like degree of knowledge and skill and with like attitude and appreciation in order that there may be an efficient social life. Its activities, values, and ideals may be regarded as "the common denominator of life for the whole nation." It deals with children during a period in their lives when their general tendencies to action, thought, and feeling, are most nearly alike and most susceptible to common appeal. It deals with social problems which are the same for all. It applies itself to the development in the child of that knowledge, of those habits, attitudes, ideals, and appreciations which enable people to understand each other, to share in the common life, and to coöperate in realizing common purposes. This, of course, does not mean that the facts of individual differences in children are to be neglected in the elementary school. In method of teaching, individual differences are of the utmost importance, but the content of activities—"the understanding of how the needs of life are met, the experience of the race in living, the value to life of interests and activities as found in history and literature, the ways of recreation, present and past, the tools used by man, as reading, writing, number, drawing, mechanical skills, and devices for group activity"[1]—should be the same in the elementary school for all children everywhere. The content appropriate for the elementary school is of equal interest and value to boys and to girls.

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[1] *Child Life and the Curriculum*, page 147.
[2] *The Elementary School Curriculum.*

That the primary aim of the elementary school is to teach the three R's is perhaps still the conscious ideal of the general public, especially of those who were trained during the nineteenth century. But there is rapidly growing a feeling that an elementary school which gives its pupils no more than the three R's is not meeting the needs of this generation. A thorough training in the use of the tools of education must always be the foundation of the elementary curriculum, but today a majority of the people demand that the school shall assume additional responsibility. Schools have no basis for existence except that of providing helpful means of and experiences in meeting the problems and various needs of life itself. The elementary school, therefore, justifies itself in the measure in which it equips individuals to engage efficiently in the activities of life. Only as the knowledge, habits, skills, attitudes, ideals, and appreciations developed in the elementary school are operative in meeting the problems of life, are they of real educative value.

We may briefly summarize the functions of the elementary school as follows: (1) to develop growth in the power to manipulate the tool subjects—the three R's; (2) to develop growth in knowledge of worth-while experiences; (3) to develop growth in the power of appreciation of beauty, people, and humor; (4) to develop growth in the power of coöperation with others; (5) to develop growth in the power of self-expression; (6) to develop growth in the ideals of personal responsibility; (7) to develop growth in right habits of physical living.

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[1] Bonser, F. G., *The Elementary School Curriculum*, page 63.

The problem of the elementary school curriculum. The problem of selecting the content of the elementary school curriculum is, first, that of determining the objectives of life in terms of different needs; second, finding the means or forms of activity best adapted to meet these needs; and third, presenting these needs together with the activities for meeting them.

Bonser[1] classifies the general aims of life in terms of four large fields of purposeful activity: first, the health activities of everyday life; second, the practical activities of everyday life; third, the coöperating activities of everyday life; and fourth, the recreational activities of everyday life. If we consider these aims, then the purposes of the elementary school are to provide a basis for health equally desirable for all; to develop practical efficiency in activities shared by all in daily work and intercourse; to develop ideals and habits of group activity of equal value to all; and to cultivate means of recreation common to all.

Many similar classifications can be made of the aims of the school in terms of life purposes. Any normal individual can be found at any time living, thinking, feeling, and acting in one or another of five major fields of activity: in the home, at work, at play, in the field of social intercourse, or in organized social life. These are the five classes of relationships and activities for which the elementary school must prepare its pupils.

In studying the forces which brought the school into existence we get another similar classification of aims. The school is an institution established and maintained by society for the purpose of developing society's efficiency.

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[1] *The Elementary School Curriculum*, page 43.

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Social efficiency has been analyzed into five types: physical efficiency, moral efficiency, vocational efficiency, avocational efficiency, and civic efficiency. Therefore the elementary school must equip its pupils with the necessary knowledge, habits, skills, attitudes, ideals, and appreciations which will enable them to become efficient in health, in morality, in recreation, in work, and in citizenship.

Some of these aims, such as vocational efficiency, are partially excluded from the elementary school because of the immaturity of the child. However, the elementary school should make a beginning toward those objectives which cannot be completely achieved during this period. In other words, there are no aims or objectives which are the exclusive province of either the elementary or secondary school. Even a command of the tool subjects, such as reading, sufficient for the needs of modern life, must be further developed in the junior and senior high school. The fundamental aims of education must be the same for all schools, just as the education of the child must be a gradual, continuous process leading upward to larger and more valuable activities and social experiences. We should not think of our public school system as broken up into two distinct periods and systems—the elementary and secondary—but rather as a twelve-year period of growth and training for every child.

In meeting all of these large life problems the only means of education and growth is effective and satisfied participation in these activities. We learn to do by doing. Therefore, the curriculum should be, as far as possible, a series of purposeful activities in meeting life's needs in the best way. The teachers' problem lies in helping to bring about the filling of these needs in some orderly arrangement, and in so directing the activities that pupils discover and utilize the most valuable knowledge and the best methods of procedure.

The elementary school must not over-emphasize subject-matter as a preparation for advanced work along the same lines. The outlook must be as much toward life outside the schools as toward higher work in the schools. We must not overlook the fact that the school must be brought into harmony with the needs and requirements of a progressive society. In the past much of the subject-matter in the elementary school has been selected largely on the basis of its preparatory value in preparing pupils for the grade or school above. The work in the primary grades prepared for intermediate grade work, and this in turn was preparatory to the work in the grammar grades. In this scheme of things the child is subordinated to the subject-matter. But the material to be taught must be selected according to present and probable future needs of the child instead of to the subject-matter in the next higher grade. Much of the content of arithmetic, language, geography, and physiology, which has been pushed down from the higher grades, is burdened with abstract principles and details which do not reach the interests of the child and which possess very little educative value for him. Subject-matter and method must be adapted to the nature of the child, and to his needs in the society in which he is to live. The child must be the "center of gravity" in the selection and presentation of subject-matter.

The Junior High School

The junior high school focuses attention upon three defects in our educational system—namely: defects in articulation between the elementary and secondary school, that is, faulty transition from one stage of the pupil's life and training to the next; the large amount of retardation and elimination, that is, the problem of the backward child and the child who drops out of school; and the late provision made for recognizing individual differences.

The gap between the elementary and the high school. The transition from our eight-year elementary school to the four-year high school means the breaking up of well established social groups among pupils and the sudden forming of new social groups. The necessary readjustments are very difficult in most cases and are very similar to those which face the college freshmen or the boy who moves to a strange town. In a large number of elementary schools the pupil has practically all his study and work under a single teacher who knows him in all his activities. On passing to the high school he suddenly finds himself with three or four teachers, no one of whom knows him in such a way that his various activities may be coördinated. The high-school freshman also finds himself confronted with studies different in many respects from those of the eighth grade. The studies of the eighth grade have been pursued for many years and he is familiar with them, while in the first year of high school most of the subjects are unfamiliar and studied from a viewpoint and by methods unknown to the pupil.

The teachers in the elementary schools have received their training in normal schools and teachers' colleges, while the great majority of high-school teachers are graduates of liberal arts colleges. Those who receive their training in normal schools and teachers' colleges tend to emphasize method and the pupil rather than subject-matter; the graduates of liberal arts colleges have received very little professional training, and so are inclined to over-emphasize subject-matter. This causes a distinctly different type of teaching in the high school from that of the elementary school. High-school teachers are apt to think more of the needs of the subject they are teaching than of the needs of the pupils. The methods of discipline also differ very widely in the elementary school and high school. Inglis says:

> No justification can be found for the sudden and abrupt change within three months from the maternalism of the elementary school to the individualism of the high school. . . . The present form of articulation between elementary and secondary education violates the most important laws of continuous and gradual development of children. Changes in development must come, but the sudden abrupt changes between our elementary and high schools demand a capacity for adaptation and readjustment not found in the average boy and girl.[1]

The junior high school attempts to correct the defects in articulation between the elementary and high school by making possible a closer relationship between each successive grade and the preceding one, as far as teaching material and subject-matter are concerned. The following gradual changes are made possible: the gradual change from the one-teacher plan of the grade school to the many-teacher plan of the high school; the gradual change from largely supervised work in the earlier grades to the more independent work and responsibility in the later grades; the gradual introduction of new subject-matter and its proper relationing to the old; and the gradual introduction of the elective system of studies and courses.

The second defect that the junior high school attempts to remedy is the problem of retardation and elimination.

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[1] *Principles of Secondary Education*, page 281. Riverside Textbooks in Education. Houghton Mifflin Company. Used by permission.

Inglis gives the following statistics regarding elimination of pupils:[1]

Nine-tenths remain in school until 12 or 13 years of age.
Four-fifths remain in school until 14.
Two-thirds remain in school until 15.
One-half remain in school until 16.
One-third remain in school until 17.

Another view of elimination is given as follows:

Three-fourths who enter school reach the sixth grade of school.
One-half who enter school complete elementary school.
One-third who enter school enter high school.
One-eighth who enter school complete high school.

The boy or girl who leaves school at the close of the sixth grade has received very little training which will enable him to meet his or her needs in life. The same is true of those who leave school after completing the eighth grade. The junior high school provides for a reorganization of the subject-matter of the seventh, eighth, and ninth grades so as to provide a richer and more useful form of education for those who leave early. The junior high school makes possible the introduction of prevocational and preview education, and also provides the encouragement for boys and girls to complete their education through the senior high school.

The psychology of individual differences indicates that provision must be made earlier than in our present high-school period for adapting the work to the different capacities, interests, and needs of the pupils. Because of this factor of individual differences the sudden change from elementary to secondary education is dangerous, not only to the individual but to society. The junior high school makes provision for an earlier introduction of different studies for different groups of pupils; promotion by subjects; the introduction of forms of instruction which may give pupils an opportunity to discover and test out their capacities, interests, and needs; educational direction and guidance. The needs of the boys and girls who leave school should be met far more satisfactorily by the junior high school than under the old system of the eight-year elementary and the four-year high school.

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[1] *Ibid*, page 287.

Characteristics of the junior high school. The junior high school is a trying-out school; a school where pupils are given an opportunity to find themselves by coming in contact with a variety of significant experiences. One of the main purposes of such a school is to afford boys and girls a basis for an intelligent choice of their educational and perhaps vocational career.

The course of study and the subject-matter are extensive rather than intensive. In English literature, instead of studying a few selections intensively, the purpose is to introduce the pupils to a large amount of literature. The social sciences, including history, geography, and civics, are taught for the purpose of developing an interest in social, civic, economic, and industrial questions and of establishing a point of view and a foundation for open-mindedness. When the pupils enter senior high school they should be able to make an intelligent choice of history, economics, or sociology. Those who do not enter high school will have received information, knowledge, and ideals necessary for all members of society.

In junior high school mathematics the pupil is introduced to several branches: arithmetic, algebra, constructive geometry, and simple trigonometry. The purpose of this course is the same as that of the others—namely, to enable the child to discover his interest and ability and to lay a foundation for more intensive study in senior high school, should he continue his mathematics course. The boy or girl who does not continue his education beyond the junior high school will have received some valuable knowledge that can be put to use in the workaday world.

In general science the pupil is introduced to a variety of fields, such as physics, chemistry, biology, astronomy, and hygiene. The purpose of such a course is to give the child a better understanding of the world in which he lives, to make it possible for children to discover whether they have any interest and ability in the field of science, and to prepare them for further scientific study if they are so inclined.

Manual arts, including woodwork, sheet-metal work, forging, electric wiring, printing, bookbinding, etc., are not taught for the purpose of preparing pupils directly for industrial work, but rather to contribute to their general development; to provide an opportunity for them to come into contact with useful activities under proper guidance, and to discover their interests and ability in the field of manual arts.

Difficulties confronting the junior high school. The junior high school is confronted with at least two major difficulties. The first of these is the division of our school system into three departments: elementary, junior high school, and senior high school. This involves the danger of making two critical points of transition rather than one. Great care must be taken lest the evils found at the one point of division may not be increased by the creation of two points of division.

One of the greatest problems, if not the greatest problem involved, is the change necessary in teachers, methods, and textbooks. At present we have few teachers who have been trained for junior high school teaching. Our present junior high schools are taught by former elementary teachers or high-school teachers. In one case we have a junior high school *building* in which the teaching and methods are the same as in the elementary school. In another case we have a junior high school *building* where the teaching and methods are the same as in the old four-year high school. In neither case do we have a real junior high school that meets the needs of junior high school boys and girls who are different from elementary pupils and still different from senior high school pupils. Just as teachers are few, so there are few suitable textbooks for the work of the junior high school. The present elementary and high-school texts will not serve the purpose if we intend really to correct the defects of articulation between the elementary and the high schools. Many so-called junior high schools merely house together the seventh, eighth, and ninth grades without making any curriculum changes. This practice is bad. If the junior high school is really to function, it means a reorganization of subject-matter and method of teaching as well as of administrative aims.

A Summary of a Report on Junior High Schools

According to the report of a sub-committee on the junior high school, authorized by and presented to the National Council of Education at Chicago, February, 1923, "It is the difficult mission of the junior high school to continue a program of studies carried through the six years of the elementary school, modify and enlarge this program for the realization of its own purposes, and in turn prepare for advanced types of curricula in the senior high schools. It is plain that this can be done only through successive periods in the transitional process. Briefly, these periods are four in number:

"**Adjustment.** *Low seventh (7A).* A period of adjustment for the very young and immature adolescent of twelve years of age. He must be adjusted to a new school organization and to a new type of school administration. It would seem wise, therefore, to subject him, during the first semester at least, to as little change as possible in the program of studies. Such change as is desirable should restrict itself to the inevitable modifications in the course of study which are consequent to enlarged school facilities and departmentalization. There should be no change in the program of studies occasioned by the introduction of electives. In fact, the tabulated report of the questionnaire shows over fifty per cent vote in favor of postponing electives to the eighth year. Present practice gives little support to any seventh-year elective.

"**Exploration and preview.** (Apperceptive Basis of Secondary Courses.) *High seventh and low eighth (7B and 8A).* There should be a period of exploration when there is a preview of the specialized secondary-school courses, which give one ground for distinguishing one high-school curriculum from another, and when prevocational try-out is provided for drop-outs. This first general view of the secondary-school subject-matter is restricted to the 'simpler aspects' of the whole subject-field prior to any attempt to cross-section it into its parts. This general introductory course offers opportunity for exploration of aptitude for the whole subject-field and for a preview or apperceptive basis for the cross-sections of the subjects. Properly, therefore, junior high school courses are designated as general mathematics, general science, world history, and general social science, prevocational courses, junior high school business methods and training, etc., etc.

"**Provisional choice of electives.** *High eighth (8B).* Following the period of exploration and preview there should be a period of provisional choice of electives. During this period facility of cross-over between electives should be promoted by every administrative device possible, to the end of guaranteeing that evidence of unfitness for an elective will be followed by a change of elective. In case this period of provisional choice does not extend beyond one semester, there would be justification for postponing promotion requirements in electives during this semester. *Periods of articulation between elementary and secondary programs of studies:* The periods of adjustment, exploration, and provisional choice of electives cover the first two years of the junior high school. These are the stages in the transitional progress which should provide an enrichment of the single curriculum by the articulation of elementary and secondary courses of study, which should explore individual interests, capacities, and aptitudes, and which should finally test the tentative choice in the light of actual contact with provisional electives. In short, these stages are the adjusting, finding, and testing periods to the end of developing a unit of transition between elementary and secondary education. They are the initial stage of the secondary school's program of studies, where the individual makes his adjustment between the *en masse* organization of the elementary school's organization and that of the senior high schools.

"**Stimulation.** *Ninth year (First year senior high school).* Finally in the accomplishment of the purpose of the junior high school to serve as a transitional stage in the public school system, there must be a period of stimulation to facilitate transition to the senior high school. The ninth year carries on the program selected after the experiment of the two previous grades. This stimulation is largely effected by the agency of the particular electives chosen during the period of exploration and provisional choice.

"There can be no close lines of demarcation drawn in time and extent between these four successive stages. Each stage has a natural coördination with the other three. There is an overlapping which should prevail throughout the three years of the junior high school. The designated purpose of each successive stage cannot be fully realized in one brief period allotted to it. In fact, some of the stages must extend into the senior high school. It is true that in each year of the whole six-year secondary period there must be adjustment, exploration, provisional choice, and stimulation."

THE SENIOR HIGH SCHOOL

By the beginning of the tenth grade, the senior high school, it should be possible to group pupils for the most part in divisions according to their major interests, abilities, and probable future careers. Inglis gives the following curriculum groupings:

1. For those entering business and clerical occupations—the business and clerical curriculums, including the following more or less overlapping curriculums: (*a*) various forms of office and clerical occupations which emphasize such studies as bookkeeping, stenography and typewriting, correspondence, circularizing, filing, etc.; (*b*) merchandising, selling, and store service; (*c*) any other group of business or clerical arts.
2. For those entering industrial occupations—the industrial curriculums, including curriculums preparing for (*a*) building trades; (*b*) wood-working trades; (*c*) metal-working trades; (*d*) machinist trades; (*e*) any other industrial occupations desirable and practicable according to the needs of pupils and society.
3. For those entering agricultural occupations—agricultural curriculums, including those involving preparation for (*a*) general farming; (*b*) animal husbandry; (*c*) special phases of agricultural work according to the needs of pupils and society.
4. For girls entering domestic occupations and other girls not enrolled in other curriculums—domestic curriculums, in-

cluding those involving (*a*) preparation for housekeeping and home-making; (*b*) the preparation for nursing as a separate occupation; (*c*) the preparation of skilled workers in institutions calling for domestic and personal service. Some parts of these curriculums may well overlap industrial occupations in the textile and clothing trades.

5. For pupils entering higher institutions—preparatory curriculums, including those preparing (*a*) for the academic college; (*b*) the technical or other special college; (*c*) the normal school.

6. For pupils whose future activities cannot yet be determined with any assurance—the general curriculum. In this curriculum the basis of the selection of studies should involve fundamental and diagnostic forms of education.

7. In some of the largest schools it is practicable to establish other special curriculums, for example, for music and fine arts.[1]

The curriculum of the senior high school. The modern curriculum organization is made up of three groups of subjects: constants, variables, and free electives. The constants include the subjects which should be required of all pupils in the senior high school. These constants make possible the development of a certain amount of like-mindedness, a unity in thought, habits, ideals, and standards which are absolutely necessary for the welfare and permanence of a democracy. Just as the school must take advantage of the common characteristics of humanity, so it must likewise utilize the individual differences. To be happy a man must have much in common with his fellows, and to be useful he must have something that they have not. Thus the school must likewise take advantage of the differences among individuals in order to develop social efficiency. The variables include those subjects which provide for a specialized education, such as commerce, industry, agriculture, home economics, professional, and academic. The free electives include those subjects which should be left to the unrestricted choice of the pupil regardless of the curriculum he may select.

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[1] *Principles of Secondary Education*, pages 688-89. Riverside Textbooks in Education. Houghton Mifflin Company. Used by permission.

It is extremely difficult to determine the exact proportions which should be given to constants, variables, and free electives. Inglis suggests "that approximately two-fifths of the total time should be devoted to constants in the curriculum organization, approximately two-fifths to the coördinate studies of some one curriculum, and approximately one-fifth to studies according to the unrestricted election of the pupil."[1]

Senior high school pupils. There are at least four groups of pupils that must be considered in the organization of the high-school curriculums. One group will continue their schooling beyond the secondary school in some college or university. This group consists of those who will very probably enter the professions of law, ministry, engineering, medicine, teaching, and business administration. The second group consists of those who will graduate from high school but will not continue their education in some higher institution of learning. These boys and girls will enter relatively high-grade positions in the commercial, industrial, and agricultural fields. The third group will remain in high school until the close of the tenth or eleventh grade and will enter similar occupations perhaps not of as high type as those of the second group. The fourth group consists of those pupils who will receive a year or less of high-school work. The majority of this group will be recruited into the skilled and unskilled trades. The difference in the type of training given to these four groups will vary with the character and needs of the community and of the high-school boys and girls.

These four groups show the extremely varied character of the high-school population—a condition due in part to social, economic, and vocational differences, and in part to individual differences in age, interests, and mental ability. This varied nature of the high-school groups suggests two major problems. The first of these concerns individual needs and the second, the development of commonality, a certain degree of social unity and like-mindedness. The multiplicity of interests and needs involved will naturally require a broadening of the curriculum, for the studies suitable for one person or group would be unsuited to another. The modern high school with its variety of personalities, abilities, social standing, and ideals furnishes a wonderful opportunity to develop the individual for efficient membership in a democratic society.

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[1] *Ibid*, page 690.

The purpose and function of the senior high school. American educators are not in perfect agreement as to the real purpose and function of the modern high school. Should the high school be committed to the policy of general training, college preparation, or vocational efficiency? It has been generally conceded that the high school should afford pupils an opportunity to prepare for college or university. What this preparation should be has not been so well agreed upon by the representatives of the secondary schools and of the colleges. The colleges have urged that the high school should provide at least one course of study which should meet the entrance requirements of the university. The representatives of the high schools have generally insisted that whatever is good preparation for life is good preparation for college. The college men have emphasized those specific subjects that would be the best preparation for doing college work most effectively. The college men have in their arguments what appears to be an underlying assumption that the courses which prepare students for college are at the same time the best preparation for the practical duties of life. This raises a most difficult question: "What knowledge is of most worth?" The question seems to be whether training in any one particular subject or group of subjects has a monopoly over other subjects in developing individual and social efficiency.

The senior high school and vocational training. What type of courses should be given those pupils who will not go on to college? One group of men advocate the establishment of a high school which shall be purely vocational. The purpose of this type of school is to make the individual industrially efficient in commercial work—practical mechanics, agriculture, sewing, cooking, etc. This narrow type of school is very likely to overlook the important fact that vocational efficiency is only one factor in social efficiency. Good citizenship and an ever growing personality are necessary elements which must not be overlooked in the education of any individual. A man may become a very efficient printer and use this knowledge of printing to make counterfeit money. Another man may use his expert knowledge of penmanship to become a forger. Still another man may use his scientific knowledge of chemistry to invent an infernal machine to destroy his fellowman.

It should always be remembered that any training to be of real value must make provision for the development and enrichment of an ethical or moral life. If training consists of mere drill and routine—that is, teaching a man to do a specific thing in a definite and fixed way, developing no vital enthusiasm and arousing no deep-seated sympathies—then there can be no enrichment of life, no growth, no education. A system of training that does not provide for growth along many lines becomes a means of developing a caste system—a system in which a few do the thinking while the great majority are not supposed to be in need of thinking or of understanding things as they are.

Vocational training must develop a wider range of activities, or as Bode says:

> . . . greater attention to the broad aspects and less attention, if need be, to the special features of the occupation for which preparation is made. The prospective plumber would relate his special knowledge to the principles of physics and mechanics; the prospective salesman would broaden out, perhaps in the direction of industry and economics. The point is that vocational training can move in either direction. It can utilize special knowledge so as to get a wider perspective, or it can follow a course of study in which the aim is not appreciation but efficiency and production, and which is content to limit the size of the man by the size of his job. Fundamentally, the issue in vocational training is the question whether the individual is to be regarded as a means or as an end, whether he is to be trained so as to become an effective mechanism or to cultivate experiences that bring progressive enlargement and fullness of life.[1]

Democracy and the senior high school. Since the high school is the school of the people, it must serve the interests of the majority who do not go to college as well as the interests of the minority who do go. The growing spirit of democracy will probably forbid two distinct types of secondary schools: one for the classes and one for the masses; one for the thinkers and one for the toilers. The high school must make it possible for each member of the four groups discussed to develop into an individual socially efficient. This means that high-school boys and girls should have the opportunity to develop the knowledge and skills which will enable them to support themselves and to contribute something to the welfare of society. In addition to knowledge and skill the high school must develop an attitude of mind that will make each individual an agreeable and helpful member of society.

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[1] *Fundamentals of Education*, page 35. Reprinted by permission of The Macmillan Company, publishers.

Questions and Problems

1. Compare the relative advantages of the 8-4 and the 6-3-3 plans for organization in the public schools.
2. Compare and evaluate the advantages and disadvantages of a single continuous twelve-grade system without any divisions.
3. Read again the summary of the functions of the elementary school on age 191. What changes would you make in this list if you were summarizing the functions of the junior high school? Of the senior high school?
4. What conclusions do you draw from Question 3?
5. How may we scientifically determine "the objectives of life in terms of different needs"?
6. What is meant by the "exploratory" function of the junior high school? Give examples.
7. What is meant by "preview" as a function of the junior high school? Give examples.
8. What is meant by "stimulation" as a function of the junior high school? Give examples.
9. Should the senior high school be committed to a policy of general training, or college preparation, or vocational efficiency? Should the senior high school combine these three? What would be the results of the combination? If not a combination of these three, which should be emphasized? Is there a conflict between these three functions?

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CHAPTER XII

ORGANIZATION AND ADMINISTRATION OF THE AMERICAN PUBLIC SCHOOLS

The Federal Government in Education

Federal land grants. No mention is made of education in the Constitution of the United States. This means that education is numbered among those activities that are left to the individual states. In spite of this fact the Federal Government, since an early date, has interested itself in education. It has not attempted to control and direct the public schools, but it has at various times made grants of land and money to aid the states in the education of the children. All types of public schools have benefited by this policy.

In 1785 the Federal Government made its first contribution to public education. In connection with an ordinance organizing the Northwest Territory, Congress decreed that the sixteenth section of each township in that territory should be set aside for "the maintenance of public schools within said township." The states carved out of that territory and all states that have been admitted to the Union since have received generous gifts of land or money from Congress for public education.

The first of these gifts for public education made by the Federal Government was given to the townships.

Later, Congress deemed it advisable to give the land directly to the state. The practice of giving land to the township made the distribution very unequal. One township would receive land that was valuable, while another township would get land that was practically worthless. When the land was given to the state, each township shared equally in all sales. After a time Congress increased its gift for public education to two sections in each township, and still later, to four sections for the last states that came into the Union.

The gifts of the Federal Government to the states have constituted a magnificent endowment for public education. Much of the school land owned by the states has been sold and the money placed in permanent school funds and the interest used for educational purposes. There is still a considerable amount of the land owned by the states. In some of them it contains valuable deposits of coal and iron, the schools receiving large incomes from leases. Other school lands have large areas of timber that is increasing in value each year. Some states lease their school land and use the income for the public schools. The school land situation in the different states makes a very interesting subject for study. Almost every kind of situation will be found, varying from a state that has lost its entire school fund, to the state that has been so wise in the administration of its lands and moneys that it has a very large school fund. Thus the Federal Government by giving these lands has established the significant precedent of aiding public education.

The second notable gift of the United States Government to education came in 1862 when the Morrill Act was passed by Congress and signed by President

Lincoln. This act set aside certain lands to be used by the states in establishing colleges of agriculture and mechanical arts. It was followed in 1887 by the Hatch Act, which provided for an appropriation of money for the establishment and maintenance of agricultural experiment stations in connection with the colleges that had been established under the Morrill Act. Thus through this and certain other legislation the United States Government has definitely adopted the policy of giving financial assistance to higher education.

Still another type of education was endowed by the United States Government when Congress passed the Smith-Hughes Act in 1917. By it the Federal Government appropriates large sums of money each year for the teaching of industrial arts, home economics, and agriculture in the various states. The act is administered by the Federal Board for Vocational Education. In common with many other acts passed by Congress, it provides that for each dollar the United States Government appropriates the state must appropriate another dollar. Hundreds of school systems are now getting the benefit of this measure. This further goes to show that the United States Government has committed itself to the plan of giving money to the states for educational purposes.

These are but a few of the educational activities of the Federal Government. However, they establish the fact that the United States Government has many times aided public education—elementary, secondary, and higher—in the various states. The Government has also established many bureaus with educational functions. The schools at West Point and Annapolis for the training of army and navy officers, and the schools for the education of the Indians and the inhabitants of territories acquired by the Government, are under the direct control of the Federal Government.

The United States Bureau of Education. In 1867 by an act of Congress a federal Department of Education was established with a Secretary of Education in the President's Cabinet. The following year, before this department had any opportunity to function, it was reduced to a bureau and placed in the Department of the Interior. At the present time, as far as the National Government is concerned, education is officially represented by this bureau in the Department of the Interior. The United States is the only great nation of the world that does not have a Secretary of Education. When the President calls his advisers together to consider the great problems of America, he has two men to advise him concerning preparation for war and no one to say a word for education. Labor and commerce, and even the Post Office, are represented in the President's official family, but the greatest enterprise in America—public education—is left unrepresented. A bill now before Congress provides for the reëstablishment of a Department of Education and a Secretary of Education in the President's Cabinet. It further provides that the United States Government shall subsidize certain types of education that the states have not as yet adequately provided for. These are the removal of illiteracy, the Americanization of the foreigner, physical education, and the preparation of an adequate number of teachers. The bill also provides an appropriation to help equalize the cost of education among the several states. A determined fight for this bill is being waged by a large group of teachers and administrators.

The State and the Schools

As was pointed out at the beginning of this chapter, the control of public education is vested in the state. It is not vested in the counties or school districts. These subdivisions are creations of the state. In practically every state in the Union the question of educational control has been decided by the supreme court. In each case the basic question has been: "Do the schools belong to the local community or to the state?" In every decision the court has ruled that the schools belong to the state and not to the county or local school district. In thinking of public education in America this point should be kept in mind. If a district hires teachers, purchases textbooks, builds a schoolhouse, or does anything else in the administration of the schools within the district, it does so with the sanction of the state and in accordance with state laws. A school district cannot adopt a budget and levy a school tax unless given permission to do so, and then it must raise its funds subject to the limitations of the state tax laws.

However, no state in America exercises direct control of its schools. It has been found best to delegate a large amount of power and authority to the counties and school districts. This is but the natural functioning of democratic government. The same citizens that make up the various school districts constitute the state. The same voters elect the state legislators that elect the school board members. Hence, it is possible to delegate large powers to the local government if a majority of the people so desire. The amount of authority delegated to the local school districts varies widely in the different states.

Every state has an organized department of education which directs the educational work, but the type of organization varies greatly. Usually it is headed by a state board of education and a chief executive officer. The boards and executive officers differ considerably as to qualifications, election, duties, and responsibilities.

State boards of education. There are several different methods of creating a state board of education. One method is to have a board made up, ex officio, of state officers. Such a system prevails in Colorado and in several other states. A board made up, ex officio, of state officers is liable to the weakness of not making education its primary interest. All of the members are elected for other purposes. They must make their record in other fields. Hence, if anything is to be slighted, it will probably be education.

Some state boards are composed of school men. The state of Washington has such a board. It is made up of the heads of various state educational institutions and other designated school executives. In a board of this type the tendency is for the members to attempt to do executive work instead of the legislative work the board is supposed to do. Each member of this board sees the problems to be dealt with, not only as they affect the state, but also as they affect his particular school. A state university president, for example, generally has his hands full securing adequate support for his own institution, and might be seriously hindered in getting a correct perspective of the education affairs of the entire state. The same is true of the other executives who are members of the board.

In some states the board of education is elected by popular vote. This is true in Michigan. Such a board is usually made up of school men. The value of a lay board is not appreciated by the average voter; therefore, school men are nearly always nominated and elected. Since such a board is made up of school men, it is in danger of the same weaknesses as a board of ex officio school men, as pointed out in the preceding paragraph.

Perhaps the best type of state board is a small group of laymen appointed by the governor. Massachusetts has such a board. A lay board does not attempt to assume executive functions, but legislates and works through a state school executive, as, for example, the state commissioner of education. Its members have an impartial concern for the educational welfare of the entire state rather than for some one institution. There has been much discussion among educators as to whether the state board should be appointed or elected. At present, authorities prefer the appointed board because it assures a lay board. It was pointed out previously that an elected board will tend to be made up of school men. Provision should also be made for a term of office long enough so that no governor can appoint a majority of the members in a single term.

The duties of the state board should parallel closely the duties of a city school board. It should always work through a chief executive officer and a corps of assistants. It should pass on all matters of school policy, these matters being brought to it by the chief executive officer. The members should have no authority as individual members of the board, but should function only through the activities of the board as a whole.

The state superintendent or commissioner of education. A state school system must have a chief executive officer. He is usually called the superintendent of public instruction or the commissioner of education. His powers and duties vary widely in the different states.

There are many different ways of selecting the chief executive of a state school system. In many cases he is elected by popular vote, as in California. The tendency of the time is away from this popular election. There is always danger of a state superintendent who is merely a politician. It is true that good men are many times elected to this office, but poor ones are quite often selected. Most good school men refuse to give up a position to become a political candidate. The state superintendent should be the best school man in the state. Yet it is almost impossible to get a city superintendent or a university president even to consider this office when it is elective. It is evident that this officer must be selected by some other method if the best men are to be attracted to the work.

The best means of obtaining a good school executive is selection by a board of education, itself well selected as outlined on page 218. This is the method employed in selecting a city superintendent of schools, and it has proved to be a wise method. It has attracted to this work some of the ablest men of the profession. The same method is used in selecting a president for a college or university, and here also it has proved successful.

The state commissioner of education should be the best educator in the state. He should be progressive and should be a real leader in educational thought. When a state has a commissioner of this caliber, backed up by a wisely chosen board, the commissioner is able to assume his logical place as educational leader of the state.

State control of education. It was explained previously that the state is supreme in the control of education. It therefore follows that all regulations concerning taxation, certification, school buildings, and all other matters of education must be made by the state. There is a great variation as to the amount of centralization in the state school systems. A state may prescribe a definite course of study and compel all schools to follow it. It may allow each school district to adopt its own course of study, or it may prescribe a course for the rural schools and give the city schools freedom to do as they please. In some cases the textbooks are prescribed by the state department and their use is compelled through all school systems. In other cases each district is allowed to select its own textbooks. Some states allow first-class districts to certificate teachers. In other states the state department does all of the certification. However, the tendency at present is toward greater centralization of authority. This is particularly true in the case of certification of teachers. The state is also taking over more and more the task of financing the public schools, and many states have even prescribed regulations for the construction of schoolhouses. In all states the laws regulate the levying of taxes and issuing of bonds for the purpose of raising money for schools. It is possible to go too far in the centralization of authority, but in these matters mentioned present practice seems to show that the state is much more effective in meeting the problems of administration than the smaller units would be.

All state departments require an accounting from each district of the state each year. These reports usually take two forms: (1) child accounting, (2) finance accounting. In the child accounting it is necessary to report to the state various data concerning the number of children living in the district, the enrollment in the public schools, the daily attendance, and other data of general interest in educational matters. In the finance reports it is necessary to furnish information as to the amount of

GEORGE DRAYTON STRAYER

George Drayton Strayer has achieved much in the field of educational administration. The work of the city superintendent has been professionalized largely through the work of Dr. Strayer and his associates. He is also a leader in administrative research.

money spent, where the money came from, and exactly what it was spent for.

The state is each year taking a larger and larger part in school finance. At the present time practically all states have permanent school funds, which in most cases were built up through the sale and rental of lands given by the Federal Government. These permanent school funds are invested, and each year the interest is distributed among the various districts of the state. In some cases this amount is increased through various types of state taxation.

The money which is distributed by the state among the various districts is apportioned according to census or attendance or on some other basis. The most common method, which is also the poorest, is to apportion money on the basis of school census. This gives a certain amount for each child of school age living in the district. Thus the school district receives money for children who have left school or who are going to private schools. Hence, this kind of apportionment does not encourage the districts to keep children in school. It is much better to distribute the money on the basis of the number of children in attendance. If the length of the term is taken into consideration too, the distribution is still more just. It is also valuable for a state to subsidize various types of education, and to pay a bonus to districts on the basis of the number of properly trained teachers that are employed in the schools. This is being done in California and in several other states.

The County and the Schools

The counties into which the states are divided vary greatly in size. From an educational standpoint they also differ widely in importance. In some states the county is next in importance to the state. In others it has practically no significance. In the Southern states the county is very important as an educational subdivision. In New England it has practically no function in education, the town and the district being very much more important.

The county as a division in education should be of great importance. It is a much more desirable system than that of the district. This is true from every standpoint. Such a system distributes the tax burden more equitably. In states where the school district is the unit of taxation the tax load is very uneven. It is not uncommon to find two adjoining districts, one paying an enormous school tax, and the other practically no tax at all to maintain the same educational opportunity. This is particularly true in those states, like Washington, where the railroads are taxed by the local school district. Where the county is the unit of taxation the burden is better distributed. Each district in the county pays the same school tax and receives the same educational advantages.

The county unit is more desirable from the standpoint of school supervision. With the district as the unit, supervision is impossible anywhere except in the city districts. The county should have as good a system of supervision as any city, and this is possible with the county unit. It is also possible to develop and administer a better course of study. The Baltimore County Course of Study, which has attracted wide attention during the past few years, is a product of a system where the county is important in educational administration.

The type of county organization differs widely in the various states. In fact, there are about as many different types of county control as there are types of state control. In general, each county has an executive officer, usually called the county superintendent of schools. This officer is usually elected by popular vote, although in a few states he is appointed by a county board of education. The latter plan is preferable. If the county superintendent is to do a real piece of work, he must have a corps of assistants. He must have sufficient clerical help to be free from the details of statistical reports. He should also have assistant supervisors to help him adequately supervise the schools of the county.

The county as a unit in education is gradually increasing in importance, while the importance of the district is waning. The rural schools of America will be vastly benefited when there is more consolidation and when the county is made a strong unit in taxation and administration.

The City School System

Every city school system in America derives from the state its right to exist as a separate school unit. Acting under state authorization most cities organize and conduct their own schools. The relation of the city school system to the state varies widely in different states. In some cases the cities are given almost complete independence. In others almost every act of the city system is determined by the laws of the state.

The school board. Practically every city school system is controlled by a board known as the school board or the board of education. They vary in size in the different cities. The table given on the next page shows the size of school boards in certain cities having a population of 250,000 or more.

TABLE SHOWING THE SIZE OF SCHOOL BOARDS AND THE METHOD OF ELECTION OR APPOINTMENT

City	*Number Members on Board*	*Elected, Appointed, by Whom*
New York, N. Y.	7	Mayor
Chicago, Ill.	11	Mayor
Philadelphia, Pa.	15	Judges
Detroit, Mich.	7	Elected
Cleveland, Ohio	7	Elected
St. Louis, Mo.	12	Elected
Boston, Mass.	5	Elected
Baltimore, Md.	9	Mayor
Pittsburgh, Pa.	15	Judges
Los Angeles, Cal.	7	Elected
San Francisco, Cal.	7	Mayor
Buffalo, N. Y.	5	Mayor
Milwaukee, Wis.	15	Elected
Newark, N. J.	9	Mayor
Cincinnati, Ohio	7	Elected
New Orleans, La.	5	Elected
Minneapolis, Minn.	7	Elected
Kansas City, Mo.	6	Elected
Seattle, Wash.	5	Elected
Indianapolis, Ind.	5	Elected
Jersey City, N. J.	9	Mayor
Rochester, N. Y.	5	Elected
Portland, Ore.	5	Elected
Denver, Colo.	7	Elected

The largest school board in this group of cities is made up of fifteen members while the smallest has but five. The present tendency is away from large boards. Practically every change in size in recent years has been from a large board to a smaller one. Five or seven members are believed by present authorities to be the ideal arrangement.

There are many different methods of securing members for a school board. They may be elected, appointed by the mayor or judges, or the membership may be self-perpetuating. The best method is election. As shown in the table, it is used in 15 of the 24 largest cities of the United States. In fact, it is the most common method used at the present time. In recent years many cities have changed from other methods to election. When school board members are elected, for obvious reasons the following conditions are essential: (1) They should be elected from the city at large and not by districts or wards; (2) they should be elected on a non-partisan ticket; (3) the election should not be on the day when other city officers are elected; (4) the elections should not be held more often than once in two years; and (5) the term of office should be long enough to prevent a majority of the board being elected at any one time.

In New York City the school board is appointed by the mayor. This method of selection is used in many other cities, particularly in the eastern part of the country. A board that is a creation of the city government is always tempted to mix in city politics. In spite of the seeming advisability of an appointed state board, such a method does not function satisfactorily in city school management. In the city the people are so close to their school system and so much better acquainted with the merits of the candidates, that election, as stated above, is the best method. Furthermore there is no chance of electing school men already burdened with their own executive duties, to a city board.

Self-perpetuating school boards are rarely found. Under this system, when a member dies or resigns, his place is filled by selection by the remaining members. This is not only unsatisfactory, but it is un-American. A public school system should be under the control of the public.

All school boards are not vested with the same authority. The greatest difference is found in the relationship of the school board to the city government in matters of finance. In general, there are two types of school systems: (1) Some city school systems are fiscally independent. The school board is allowed by the state to levy taxes or cause some other agent to levy for it, under the limitations of the state laws. (2) Other school boards are fiscally dependent. They must submit their school budgets to the city officials. The municipal government is given the right, by the state, to reduce the school budget or adopt it as it is presented to them.

In the last few years several American cities have changed from fiscal dependence to fiscal independence. It is believed that fiscal independence produces much better schools. If a school board knows that it can levy enough money to run the system adequately, it is possible to make plans in advance and know that there will be money enough to carry these plans out. Most of the western cities like Denver, Portland, Seattle, and St. Louis are fiscally independent, while Detroit, Minneapolis, New York, and Baltimore are examples of cities that are fiscally dependent.

The City Superintendent of Schools. The most important function of the city school board is the selection of a superintendent of schools. This superintendent should be the executive head of the system. He should administer the schools. The board of education should act upon matters brought to it by the superintendent. It should only legislate on matters of school policy. The details of employing teachers, buying supplies, writing the course of study, supervising the schools, and all other educational matters should be under the control of the superintendent and his assistants.

The city school superintendent usually has several assistants. Each assistant superintendent is responsible to the superintendent for a certain phase of the work of the system. For example, it is common to have an assistant superintendent in charge of the senior high schools. When matters concerning the senior high schools come to the superintendent, and through him to the board if necessary, they come through the assistant superintendent in charge.

Each school in a city system is in charge of a principal. He is responsible for the organization and administration of his school. The supervision of instruction is the principal's chief task. It is necessary also for the principal to make the required reports, represent the school in the community, and in many ways become the most vital factor in a city school system. It is impossible to have a good school organization unless the principals of the schools are well fitted for their work.

The city school system in America represents the greatest advance in education. In the cities we find the best instruction, the best supplies, and in general, the best teaching. The adoption of the larger units of supervision in the rural districts will enable them to have many of the advantages of the city in matters of supervision and administration.

Questions and Problems

1. How has the Federal Government aided the public schools?

2. Why are the state agricultural colleges sometimes called "land grant" colleges?

3. Why is education considered a state function in America?

4. How would you change the department of education in your state to make it more effective?

5. What are the proper qualifications for a state commissioner of education?

6. Why is the county unit of supervision superior to the district unit?

7. Why have city schools developed more rapidly than rural schools?

8. Why should all city boards be financially independent?

9. What is the proper function of a superintendent in a school system?

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SUMMARY OF PART FOUR

In order that the student may properly understand and interpret the present organization of the American public schools, Chapter X described the historical development of their three divisions. Historically, each of the three divisions—elementary, secondary, and higher—springs from separate and distinct sources and develops to considerable proportions independently of the others. The three divisions are now joined together forming the "American educational ladder," and our public school system now stands, after three centuries of growth, complete in form only. In organic relation, in sharpness of province, and in distinctiveness of function, these divisions are not yet satisfactorily articulated.

Chapter XI analyzed the present reorganization of elementary and secondary education. The reorganization of a school system, to be of real value, must be a functional, as well as an administrative, one. The functional reorganization has to do with changes in the curriculum and subject-matter. The needs of the individual and the needs of society are determining factors in curriculum revision. There is a growing tendency to consider grades one to six inclusive as constituting the elementary school, and the secondary school period as commencing with the seventh grade and extending through the twelfth. The six-year secondary period is divided into the three-year junior high school and the three-year senior high school.

It was shown in Chapter XII that the Federal Government has given aid to education in the various states in spite of the fact that each state has control over its own educational system. The states differ widely in their organizations for educational purposes. However, most states have a state board of education and a chief executive officer. The state usually passes on to the counties and districts most of the immediate control over education. The county is an important school unit in the South and West, but does not have an important function in the North. The greatest development of education in America is found in the city school systems where the best supervision is possible.

As a fitting conclusion to this brief survey of the great field of education in America, Part Five takes up a discussion of the development of modern education and of the great work of education as a maker and preserver of democracy.

PART FIVE

DEMOCRACY AND THE PUBLIC SCHOOLS

The Evolution of Modern Education
The Laboratory of Democracy

CHAPTER XIII

THE EVOLUTION OF MODERN EDUCATION

The Extension of Education

Informality of early education. In approaching the study of educational evolution we should remember that it did not begin with the schools. According to Bode:

> Education as a practice extends back as far as the beginning of human existence. Even in the lowest forms of human society some education is required for the perpetuation of the community life. The child must learn how to make clothes and utensils, how to hunt and fish, how to raise crops, and how to comport himself as a member of his group. But this learning is accomplished without any necessary reference to theory, and even without any significant use of formal educational agencies.[1]

Education becomes a distinctive and separate undertaking only among civilized people. Among savages and barbarians education is informal, irregular, and uncertain, as it was also in earlier civilizations, but in advanced society it is well organized and institutionalized.

There have been three main lines of advance in our educational development: first, the extension of educational advantages from the classes to the masses; second, a transfer of education from private to public control; third, a gradual change in subject-matter and method.

The extension of education from the classes to the masses. It is possible to conceive of society as a pyramid of social classes. In the earlier civilizations and even up to a comparatively recent time, at the top of the pyramid were the higher nobility, the churchmen, and the lay nobility. Next came a larger group, the lower nobility and the higher commercial classes. The third group was larger still and composed of the upper middle class, the well-to-do merchants, manufacturers, large landholders, and professional men. The fourth class, a still larger group, was made up of small shopkeepers, craftsmen, and farmers. Finally, at the base of the pyramid, was the largest group of all, the day laborers.

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[1] *Fundamentals of Education,* page 2. Reprinted by permission of the Macmillan Company, publishers.

Formal education started at the top of the pyramid and has slowly worked its way downward. The first schools were organized and maintained for the very select few. In oriental nations—Egypt, Assyria, Babylonia, and Persia—the priests were generally the teachers and the chief beneficiaries of education. It was not until the rise of the Greek states that any wide extension of education took place. But the much heralded Athenian democracy was in reality an oligarchy based upon slavery. It is true the free citizens of Greece received a general education, but at least four out of every five inhabitants were slaves. The Roman republic showed some signs of a tendency toward popular education, but her imperial dream of a world empire drew her attention away from the real need of the masses.

When Rome fell, the chaos of the Dark Ages almost completely destroyed the education and culture of the past. Education returned to the oriental status, where the priests were the teachers and beneficiaries of education. Even the priests were almost inconceivably ignorant. "In the time of Charlemagne," 'Hallam says,' "not more than one out of a thousand of the Spanish clergy could read, and in England during the reign of Alfred the Great only a small portion of the priests could understand the Latin of the service."[1] These conditions, however, were gradually improved, and education was extended widely among the clergy and the higher nobility. Then it spread downward to the second class, the lower nobility, and at the opening of the modern period of history the third class, the well-to-do commercial and professional groups, were receiving the benefits of organized education. From these three groups education has gradually come within the possibilties of the ambitious and able of all classes.

The spread of popular education as a result of the industrial revolution. The industrial revolution, which began in the latter part of the eighteenth century, ushered in the machine age with its transfer of industry from the home to the small shop and the factory, and therefore changed the whole economic, educational, and social scheme of things. The industrial revolution brought large groups of people together into the manufacturing centers, and thus made possible the rapid growth of cities. All this made conditions favorable for the rise of public education. The result was that the state gradually took over the schools which had been, from early times, under the direction and authority of the church.

Prior to the revolution the average man gained his training and education through an apprenticeship to an occupation. This usually lasted seven years and not only gave the individual training in performing the mechanical processes involved in the trade, but also a knowledge of raw materials, their production and consumption, and the marketing of the finished product. He also had dealings with many classes of men. All this training developed in the individual a certain amount of initiative and judgment. But with the coming of the factory system the differentiation of labor necessitated each man's performing a simple task day after day. He could become an expert in his specific task in a very short time. This cut down the period of apprenticeship from seven years to a few months, and at the same time it limited the number of things a man learned to do.

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[1] Quoted by Smith, W. R., in *An Introduction to Educational Sociology*. Chap. X.

Some steps were then necessary to prevent these men from becoming mere machines. The new working conditions demanded broader training. Formal education was widely enough spread to include them all in its benefits. Ingenuity and skill required in production through power machinery called for trained minds. Leaders were needed to push forward this new industrial organization. Shortening the period of apprenticeship released several years of youthful energy which was diverted into the schools. Additional leisure time was acquired and the laborer received more money. For the first time in history the idea of educating the manual laborer began to take hold of the imagination. It remained, however, for the twentieth century to make popular education widespread. Society is now beginning to realize that just as it was necessary to give the men entering the professions an education, a training for their work, so it is just as necessary to train the laborer for his work; and today vocational education is one of the big problems with which society is wrestling. Just as society saw the need for law schools, medical schools, and theological schools, and later engineering schools, so today it is organizing teachers colleges, commercial schools, agricultural schools, industrial and technical schools, and schools of household arts.

The changes in subject-matter and method. As education is pushed down the social pyramid we can see the change in subject-matter, method, and aims: the change from the theoretical to the practical; from the abstract to the concrete; from pure science to applied science; from general psychology to educational and child psychology; from pure sociology to educational sociology; from general chemistry to household chemistry; from anatomy and physiology to individual and social hygiene; from the individual aim of education to the social aim; from the discussion of such problems as how many angels could dance on the end of a needle to the problem of how we can classify children in order to adapt subject-matter to the capacity of the learner.

In the past the elementary schools were limited to the tools of learning, the three R's;[1] then came geography, grammar, language, music, history, nature study, civics, literature, physiology. Now we are revising these studies, adapting them to the interests, abilities, and real needs of boys and girls, and we are adding many new subjects such as shop work, art, home economics, general science, social science, and community problems. We shall always find it necessary to teach the three R's in the elementary school, and in addition we must use the material which is provided in science, literature, and history, for the purpose of forming certain ideals and to give new significance to the facts of our complicated everyday living. As we come to recognize more clearly the function of education in a democracy, we shall stress more and more that type of education which will explain the meaning and purposes of a democratic society and which will give larger opportunity for actual participation in the duties of citizenship, even while boys and girls are still enrolled in our elementary schools.

An illustration of changes in method and subject-matter.[2] The method used in the first geography teaching was constant drill in location, together with the memorizing of

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[1] See Table, page 238.

[2] The Commonwealth of Massachusetts *Bulletin of the Board of Education.* 1918, No. 6, "Teachers' Manual of Geography," pages 9-14.

DEVELOPMENT OF THE ELEMENTARY SCHOOL CURRICULUM FROM 1775 TO 1924*

1775	*1825*	*1850*	*1875*	*1924*
Reading	Grammar	History	Drawing	Social Sciences
Spelling	Reading	Lang. and Gram.	Civics	Physiol. and Hygiene
Writing	Spelling	Reading	History	Literature
Arithmetic	Writing	Spelling	Lang. and Gram.	Art
Bible	Arithmetic	Writing	Reading	Civics
	Conduct	Arithmetic	Spelling	History
	Bookkeeping	Conduct	Writing	Lang. and Gram.
	Geography	Bookkeeping	Arithmetic	Reading
		Geography	Conduct	Spelling
		Object Lesson	Nature Study	Writing
			Geography	Arithmetic
			Music	Supervised Play
			Phys. Exercises	Nature Study
				Geography
				Music
				Physical Training
				Cooking
				Sewing
				Manual Training
				General Science
				Auditorium Activities

*Adapted from Cubberley, *Public Education in the United States*, page 327. Riverside Textbooks in Education. Houghton Mifflin Company. Used by permission.

lists of geographical features. During this first stage of geography teaching the pupil was taught that Switzerland is located in central Europe, and is bounded by France, Germany, Austria, and Italy. Its chief cities are Zurich, Basel, Geneva, Berne, and Lausanne. Its largest lake is Geneva, and so on. In the second stage of geography teaching memory work was still dominant, but the materials to be remembered were the statements of the textbooks rather than mere lists. The pupil learned not only that Switzerland contains a small lowland in the north and the great Alpine ranges in the south, but that the Alps are folded mountains highly glaciated, and distinguished by long longitudinal valleys and short transverse valleys. In the third and present stage of geography teaching the method requires much less memorizing and more reasoning on the part of the pupil. Human and social geography is emphasized rather than isolated facts and locations.

Geographical facts are now studied in terms of their influence on human activities which are within the range of the pupil's own experiences. He learns that Switzerland is famous for its hotels, good roads, tunnels, beautiful scenery, toymaking, dairies, and the manufacture of fine fabrics, embroideries, and watches. These facts are all learned in their relation to the Swiss people. For example, the toys are made in winter when the people are not busy on the farms or in taking care of the tourists. The Swiss people take advantage of their natural resources. Lacking fuel, they have shown exceptional ability in utilizing the streams that formerly ran to waste. Railroads and trolley lines are run largely by electric power from the waterfalls. Because of relatively little fuel and raw material, the Swiss manufacture such articles as watches, fine cloths, and delicate embroideries.

While studying these human phases of Switzerland, the pupil learns the names and locations of the important cities where the manufacturing is carried on. He also learns the rivers that furnish the water power and the mountains that provide the wonderful scenery. In the same way the physical features, such as climate, soil, and minerals are fixed in the pupil's mind, not by a forced process of mechanical drill, but as steps in attaining an end. He uses these facts as a means of understanding and solving a problem of real social significance. The present method of teaching geography makes it possible for the pupil to gain knowledge of social value through rich and vital experiences. It also enables him to reason from cause to effect, to weigh values, to appreciate the influence of many different factors, and to understand how one part of the world is dependent upon another part.

The popularizing of education for women. One of the most interesting phases of our educational evolution has been the popularizing of education for women. None of the oriental nations realized that women could be educated. Even Greece and Rome with all their grandeur and glory neglected this vital necessity. It was only after education had become general for men that women began to be admitted to the schools. Only a generation ago, or perhaps two in our own country, there were grave doubts in the public mind as to the possibility and advisability of extending education to women. All these fears have since been dissipated as women have been admitted to a place beside men in classrooms from the kindergarten to the university. Starting centuries later than man, woman has won a place of equality with him in our schools and even threatens to outstrip him in the attainment of universal literacy.

ELWOOD PORTER CUBBERLEY

Elwood Porter Cubberley has worked with marked efficiency in many educational fields. His contributions to school administration and the history of education have been most valuable. He has written, in a simple and fascinating style, the story of the development of education throughout the world. The present position of the history of education is largely due to Dr. Cubberley's work.

The disappearance of illiteracy. How great has been the progress of education at the base of our social pyramid is shown by the rapid disappearance of illiteracy. "In France in 1790, 63 per cent of those registering for marriage were unable to sign their names. In 1910, 4 per cent were unable to do so. In England in 1843, 41 per cent; 1905, 2 per cent. In Germany in 1875, 24 per cent of army recruits; 1908, 2/10 of 1 per cent."[1] The percentage of illiteracy in the United States has been lowered during twenty years from 13.3 per cent in 1890 to 10.7 in 1900, and 7.7 per cent in 1910.[2] The amount of illiteracy in 1920 was 6 per cent.[3] Dispelling illiteracy is only a first step in the march of modern educational progress. The masses will not be satisfied with mere ability to read and write. They will demand more knowledge, more skill, and more refinement and culture. Free popular education will grow until the masses will occupy in a few generations the plane now reached by the better educated classes.

The big business of education. The biggest business in the United States today is education. Our present public educational plant has more than 700,000 teachers, with a billion and a half dollars invested in equipment, an annual budget of over a billion, and an enrollment of over twenty million pupils. In a few decades this will all be doubled and then still keep on growing. With the appearance of continuation schools, night schools, and extension classes for older people, there is left for the imagination an unlimited field for speculation as to the proportion of our population that will be enrolled in some form of school work under public control fifty years from now.

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[1] Quoted by Smith, W. R., in *An Introduction to Educational Sociology*, Chap. X.

[2] Bureau of Education Bulletin, 1916, No. 35, page 10.

[3] *14th Census of the United States*, 1920, Vol. 3, page 17.

Outstanding Personalities in the History of Modern Education

All great educational movements have been the result of the efforts of dominant self-sacrificing personalities. One of the best ways to understand and appreciate the real significance of educational movements is to trace their development through the simple and gradually more and more complex stages. This process always brings us face to face with great outstanding personalities; personalities whose lives have been devoted to the highest end—to the service of mankind and to the progress of truth. We think of these great personalities as contributions to a life which is not of today or yesterday, but of all time.

The principles underlying modern education may be said to have had their beginning in the eighteenth century reforms of Rousseau, Pestalozzi, Froebel, and Herbart. At this time the schools were controlled by the church, which also dominated the state to a large extent. The schools existed for the upper classes of society and were autocratic, expensive, formal, and individual in method. Today schools are controlled by the state, are non-sectarian, democratic, and free.

Rousseau. Rousseau (1712-1778), in France, revolted against the social conditions of his time and attempted to overthrow the aristocracy, artificiality, and exploitation which abounded.

Cubberley gives an interesting insight into the social conditions of the times:

> Among the middle and upper social classes, particularly on the continent of Europe, a stiff artificiality everywhere prevailed. Children were dressed and treated as miniature adults, the normal activities of childhood were suppressed, and the natural interests and emotions of children found little opportunity for expression. Wearing powdered and braided hair, long gold-braided coats,

> embroidered waistcoats, cockaded hats, and swords, boys were treated more as adults than as children. Girls, too, with their long dresses, hoops, powdered hair, rouged faces, and demure manner, were trained in a, for children, most unnatural manner. The dancing master for their manners and graces, and the religious instructor to develop in them the ability to read and to go through a largely meaningless ceremonial, were the chief guides for the period of their childhood.[1]

In his *Emile* (1762) Rousseau attacked the religious and social theory as to education then prevailing throughout Western Europe.

> For the stiff and unnatural methods in education, under which children were dressed and made to behave as adults, the harsh discipline of the time, and the excessive emphasis on religious instruction and book education, he preached the substitution of life amid nature, childish ways and sports, parental love, and an education that considered the instincts and natural development of children.[2]

Rousseau believed that education was the remedy for the ills of society and that in the processes of education the child should be the center of gravity. The nature of the child should determine the nature of the teaching rather than the logical order of subject-matter which was developed only to the adult mind. According to Rousseau, the child was to be considered as a child and taught as a child rather than as a miniature adult.

Although many of Rousseau's theories were crude and impractical, Cubberley says:

> He may be regarded as the first important writer to sap the foundations of the old system of religious education, and to lay a basis for a new type of child training. Though Rousseau's enthusiasm took the form of theory run mad, and the educational plan he proposed was largely impossible, he nevertheless popu-

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[1] *The History of Education*, pages 457-458, Riverside Textbooks in Education. Houghton Mifflin Company. Used by permission.

[2] *Ibid*, page 509.

larized education, not only in France, but among the reading public of the progressive European States as well.[1]

Pestalozzi. In common with Rousseau, Pestalozzi (1746-1825), in Switzerland, emphasized the importance of the nature of the child, but he also made a very significant contribution. He emphasized the fact that in the educative process the child must be thought of in relation to the subject-matter. He intended to reduce the educational processes to a well-organized routine based on the nature and earliest development of the instincts, capacities, and powers of the growing child. Pestalozzi's real contribution was his attempt to change the method of teaching children. He attempted to analyze subject-matter into its simplest elements. His analysis of subject-matter into its elements was often carried to the extreme, and in the light of our modern knowledge we can see how crude were his attempts. However, the results for education of his ideas were very large.

> They, in time, gave aim and purpose to the elementary school of the nineteenth century, transforming it from an instrument of the church for church ends, to an instrument of society to be used for its own regeneration and the advancement of the welfare of all. The introduction of the study of natural objects in place of words, and much talking about what was seen and studied instead of parrot-like reproductions of the words of a book, revolutionized both the methods and the subject-matter of instruction in the developing elementary school. Observation and investigation tended to supersede mere memorizing; class discussion and thinking to supersede the reciting of the words of the book; thinking about what was being done to supersede routine learning; and class instruction to supersede the wasteful individual teaching which had for so long characterized all school work. It meant the reorganization of the work of the vernacular school on a modern basis, with class organization and group instruction, and a modern-world purpose.[2]

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[1] *Opus cit.*, page 509.
[2] *Ibid*, page 543.

Froebel. Froebel (1782-1852) was a student of the theory of Pestalozzi and accepted his principles. His original contribution consisted in the fact that he emphasized social participation in the school. He regarded the school as a miniature society in which children learned to do by doing. He was deeply impressed with the great value of music and play in the education of children.

> Gradually Froebel became convinced that the most needed reform in education concerned the early years of childhood. His own youth had been most unhappy, and to this phase of education he addressed himself. After a period as a teacher in Switzerland he returned to Germany and opened a school for little children in which plays, games, songs, and occupations involving self-activity were the dominating characteristics, and in 1840 he hit upon the name *Kindergarten* for it. . . . He saw, more clearly than any one before him had done, the unutilized wealth of the child's world; that the child's chief characteristic is self-activity; the desirability of the child finding himself through play; and that the work of the school during these early years was to supplement the family by drawing out the child and awakening the ideal side of his nature. To these ends doing, self-activity, and expression became fundamental to the kindergarten, and movement, gesture, directed play, song, color, the story, and human activities a part of kindergarten technique. Nature study and school gardening were given a prominent place, and motor-activity much called into play. Advancing far beyond Pestalozzi's principle of sense-impressions, Froebel insisted on motor-activity and learning by doing.[1]

Herbart. Herbart (1776-1841) accepted the principles of Pestalozzi and made his own contributions to them. He advocated education for all and insisted upon knowing and doing, not as an end in themselves, but as a means to an ideal, which was character. Herbart paid more attention to the technique of teaching than his predecessors, and he may be said to have been the first to develop a real technique of teaching children. Although his method of teaching was unsound according to the new psychology, nevertheless his idea that there should be a scientific theory of the learning process was a real contribution to the science of education.

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[1] Cubberley, *opus cit.*, pages 764-765.

Cubberley gives us an interesting comparison of Herbart and Pestalozzi:

> The two men, however, approached the educational problem from entirely different angles. Pestalozzi gave nearly all his long life to teaching and human service, while Herbart taught only as a traveling private tutor for three years, and later a class of twenty children in his university practice school. Pestalozzi was a social reformer, a visionary, and an impractical enthusiast, but Herbart, on the other hand, was a well-trained scholarly thinker, who spent the most of his life in the peaceful occupation of a professor of philosophy in a German university. It was while at Köningsberg, between 1810 and 1832, and as an appendix to his work as professor of philosophy, that he organized a small practice school, conducted a pedagogical seminary, and worked out his educational theory and method. His work was a careful, scholarly attempt at the organization of education as a science, carried out amid the peace and quiet which a university atmosphere almost alone affords. He addressed himself chiefly to three things: (1) the aim, (2) the content, and (3) the method of instruction.[1]

Pioneer Leaders in American Education

Among the pioneer leaders in the field of American education five names stand out prominently: Horace Mann, Henry Barnard, Francis Parker, William T. Harris, and John Dewey. These first four men represent four distinct fields of education; Horace Mann was a leader in educational administration; Henry Barnard, our first great educational scholar; Francis Parker, a leader in educational method; and William T. Harris, a leader in educational philosophy. John Dewey stands as the great interpreter in education of the vast changes of the nineteenth century.

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[1] *Opus cit.*, page 759

Horace Mann. Through the efforts of Horace Mann (1796-1859) the first state normal school in the United States was founded and established in 1839 at Lexington, Massachusetts. The keen insight and breadth of vision of this educational leader are seen in the following quotation from an address which he delivered at the founding of one of the normal schools:

> Neither the art of printing nor the trial by jury, nor a free press, nor free suffrage can long exist to any beneficial and salutary purpose without schools for training of teachers; for if the character and qualifications of teachers be allowed to degenerate, the free schools will become pauper schools, and the pauper schools will produce pauper souls, and the free press will become a false and licentious press, and ignorant voters will become venal voters, and through the medium and guise of republican forms an oligarchy of profligate men will govern the land; nay, the universal diffusion and triumph of all-glorious Christianity itself must await the time when knowledge shall be diffused among men through the instrumentality of good schools. Coiled up in this institution, as in a spring, there is a vigor whose uncoiling may wheel the spheres.[1]

Today we witness the uncoiling of this spring. Horace Mann's first normal school has multiplied into many teacher-training institutions. There are in the United States 164 state institutions for the preparation of teachers; ninety-one of these are giving four years of college work, twenty-four, three years, and fifty-two, two years.[2]

Horace Mann was also the founder and the first president of Antioch College, Yellow Springs, Ohio, which was the first collegiate institution to open its doors to both men and women. This school was established in 1853, and at the present time Arthur Morgan is conducting a most interesting experiment at this same institution in which he is combining cultural and technical training.[1]

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[1] *American Journal of Education.*
[2] *Yearbook American Association of Teachers Colleges*, 1922, page 13.

Mann was educated and trained to be a lawyer, but he gave up this profession and went into the field of education. When asked by a friend why he changed he replied, "The interests of a client are small as compared with the interests of the next generation. Let the next generation be my client."[2] As the first secretary of the Massachusetts State Board of Education, Horace Mann started on a most remarkable piece of work in the education of public opinion. According to Cubberley:

> His twelve carefully written reports on the condition of education in Massachusetts and elsewhere, with his intelligent discussion of the aims and purposes of public education, occupy a commanding place in the history of American education, while he will always be regarded as perhaps the greatest of the "founders" of our American system of free public schools. No one did more than he to establish in the minds of the American people the conception that education should be universal, non-sectarian, and free, and that its aim should be social efficiency, civic virtue, and character, rather than mere learning or the advancement of sectarian ends. Under his practical leadership an unorganized and heterogeneous series of community school systems was reduced to organization and welded together into a state school system, and the people of Massachusetts were effectively recalled to their ancient belief in and duty toward the education of the people.[3]

Henry Barnard. Henry Barnard (1811-1900) did an equally important piece of educational work in Connecticut and Rhode Island. Like Horace Mann, he was educated for the law, but he soon turned to teaching and became deeply interested in education. He traveled widely both in this country and in Europe, and was thoroughly acquainted with educational and social conditions in both countries. During his travels in this country he met such men as Marshall, Madison, Preston, Calhoun, Clay, and Webster. He journeyed extensively in Europe, paying especial attention to the social, economic, and educational conditions of the various countries. He had letters of introduction to Wordsworth, Lockhart, De Quincey, Carlyle, and other distinguished literary writers. Barnard spent much time in Europe studying school conditions, particularly the work of Pestalozzi's disciples in Germany and Switzerland. He returned from Europe with his mind enriched by valuable observation of social and educational conditions. He appreciated more than ever the institutions of his own country, and was convinced that hopes of permanent prosperity depended upon universal education.

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[1] The most striking feature of Mr. Morgan's plan is the so-called coöperative idea, under which the student body is divided into two groups for alternating periods of five weeks' study and five weeks' work. A student attends college for five weeks and then goes to work in some industry, business, or professional office. Meanwhile, the student's alternate comes back to college from the position the two have in common.

[2] Hinsdale, B. A., *Horace Mann.*

[3] *Opus cit.*, pages 166-7.

Barnard was secretary of the State Board of Education of Connecticut from 1839 to 1842. During his term of office he brought about educational reforms similar to those which Horace Mann was carrying on in Massachusetts. From 1845 to 1849 he was State Commissioner of Public Schools in Rhode Island. In 1854 Barnard represented the United States at the Educational Congress held in London, and saw exhibited for the first time Froebel's system of kindergarten, of which he wrote the first American account.

In 1855 he began the publication of the *American Journal of Education*, and completed it in 1893. An eminent college president, writing in the *North American Review*, January, 1876, said: "It is the best and only general authority in respect to the progress of American education during the past century. The comprehensiveness of this work and its persistent publication under many adverse circumstances entitled the editor to the grateful recognition of all investigators of our system of instruction." The *Journal of Education* was more than a school review; it has aptly been called "a vast encyclopaedia of literature." In the domain of historical pedagogy it gives an account of the development of human culture, both theoretical and practical, under the varying conditions of race, climate, religion, and government. It describes systems of education in the old world and the new normal schools, colleges, technical schools, elementary and secondary schools, and schools for the defectives.

In 1867 Barnard became the first United States Commissioner of Education. His extended acquaintance with educational systems in Europe and America and his large educational library enabled him to enter upon his duties with a wonderful background and experience. As Commissioner of Education he outlined the policy which the Bureau has since followed in the collecting of educational statistics, and in attempts at the unification of the educational forces of the country. "The crowning work of Dr. Barnard's long and active life is that monumental encyclopaedia of pedagogical literature, the *American Journal of Education*, thirty-two volumes of over eight hundred pages each."[1]

Francis Parker. Francis Parker (1837-1902) was a leader in the field of educational method. Perhaps no other American educator in modern times has done more to modify and enrich the course of study in elementary schools. He was a lover of childhood and had the insight to see educational problems from the standpoint of the child. In 1872 Parker went to Germany and entered King William's University at Berlin for a two-year course in philosophy, history, and pedagogics. Upon his return to this country he was elected Superintendent of Public Schools at Quincy, Massachusetts. Said his committee in their report after he left them:

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[1] Monroe, W. S., *The Educational Labors of Henry Barnard.*

> For five years the town had the benefit of his faithful, intelligent, and enthusiastic services. In these years he transformed our public schools. He found them machines, he left them living organisms; drill gave way to growth, and the weary prison became a pleasure house. His dominant intelligence as a master, and his pervasive magnetism as a man, informed his school work. He breathed life, growth, and happiness into our schoolrooms. The results are plain to be seen before the eyes of everyone, solid, substantial, unmistakable. They cannot be gainsaid, or successfully questioned.[1]

His most constructive work was done while he was in Chicago Institute, which afterwards became the School of Education of the University of Chicago. Here, with John Dewey, he conducted an experimental school. Students from all over the United States came to Chicago to study with Parker. The enthusiastic and scientific teachers that he trained have done much to bring about the educational reformation of our own day.

William T. Harris. William T. Harris (1835-1918) has been justly called America's first great educational philosopher. He was a student of psychology, history, and philosophy of education. In his executive and administrative work as Superintendent of Schools at St. Louis and Commissioner of Education in Washington, he demonstrated his ability to realize educational ideals born of critical observation and reflection. While Superintendent of Schools of St. Louis he established (1873) the first public kindergarten in the United States. In the year 1871 he published a well-organized plan for the orderly study of the sciences and one thoroughly characteristic of his logical, philosophical mind. This type of course of study was widely copied, became very popular in the schools, and did much to introduce science instruction into the schools.

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[1] Parker, Francis, "Notes of Talks on Teaching." Reported by Partridge.

John Dewey. The foremost American interpreter of the vast educational, social, and industrial changes which have marked the nineteenth and twentieth centuries, is John Dewey (1859-), professor of philosophy, Columbia University. Better than anyone else he has thought out and stated a new educational philosophy—a philosophy suited to the needs and problems of the changed and changing conditions of human living.

> Education, in Dewey's conception, involves not merely learning, but play, construction, use of tools, contact with nature, expression, and activity; and the school should be a place where children are working rather than listening, learning life by living life, and becoming acquainted with social institutions and industrial processes by studying them. The work of the school is in large part to reduce the complexity of modern life to such terms as children can understand, and to introduce the child to modern life through simplified experiences. Its primary business may be said to be to train children in coöperative and mutually helpful living. The virtues of a school, as Dewey points out, are learning by doing; the use of muscles, sight and feeling, as well as hearing; and the employment of energy, originality, and initiative. The virtues of the school in the past were the colorless, negative virtues of obedience, docility, and submission. Mere obedience and the careful performance of imposed tasks he holds to be not only a poor preparation for social and industrial efficiency, but a poor preparation for democratic society and government as well. Responsibility for good government, under any democratic form of organization, rests with all, and the school should prepare for the political life of tomorrow by training its pupils to meet responsibilities, developing initiative, awakening social insight, and causing each to shoulder a fair share of the work of government in the school.[1]

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[1] Cubberley, *Opus cit.*, pages 780 ff.

WOMEN IN THE DEVELOPMENT OF AMERICAN EDUCATION

The part which women have played in the development of American education has been the main influence in the change toward the broadening of woman's sphere.

> The value of her work to beget and to train future generations is understood as never before. In order to meet the high demands on her a wise and broad education is necessary. . . . With the conception that men and women have equal rights and equal abilities a new impulse was given education. That this ideal has become an essential feature of all modern education is due chiefly to the energy of the distinguished women of the eighteenth and nineteenth centuries.[1]

Emma Willard. The life ambition of Emma Willard (1787-1870) was to organize a system of education for women which should possess the same permanency, uniformity, and respectability as educational institutions for men, and yet differ so as to be adapted to the needs and interests of women. In 1800 women could not enter any college in the United States. In 1821 Emma Willard established Troy Female Seminary at Troy, New York.[2] This marked the beginning of higher education for women. This seminary was from the beginning popular and prosperous. The leading families of the country sent their daughters there to be educated. One of the main purposes of this school was to educate the teachers in Mrs. Willard's own methods. Many young women who graduated from this school went into the western and southern states and did pioneer work in establishing educational institutions for women.

In 1831 Emma Willard played an important part in establishing a girl's school in Athens, Greece. In this enterprise she was joined by her sister, Mrs. Lincoln

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[1] Emerson, Mabel I., *The Evolution of the American Ideal*, page 108.

[2] The Troy Female Seminary afterwards became the Emma Willard School, and today enjoys a splendid patronage.

Phelps, also a distinguished leader in the movement of education for women. Pupils came from all parts of Greece and were trained after the methods of Mrs. Willard. In 1843 she became closely associated with Horace Mann and Henry Barnard in a great agitation for normal schools. She wrote several textbooks, which were translated into many languages, and collaborated with W. C. Woodridge in preparing *Woodridge and Willard's Geography*. This book, together with her history texts, had an unusually wide use. In 1851 a medal and a certificate for her geography maps, were presented to her by Prince Albert at the World's Fair held in London.

Catherine Beecher. Catherine Beecher (1800-1878) was another of the pioneers in the movement for the higher education of women. In 1828 she founded the Hartford Female Seminary, which for many years was one of the important institutions of its kind in America. For many years she traveled through the South and West lecturing upon educational subjects and developing an interest in higher education for women. Her works on domestic science were the first of their kind published in America. Among the most popular textbooks of the time were her arithmetics and geography. She contributed largely to the best educational literature of her day.

Miss Beecher was instrumental in organizing the American Woman's Educational Association. The purpose of this association was "to aid in securing to American women a liberal education, an honorable position in their appropriate professions by means of endowed institutions on the college plan of organization; also to train women to be intelligent, successful wives, mothers, and housekeepers."[1]

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[1] *American Journal of Education*, Vol. 28, page 9.

Paul O.

Mary Lyon. Mary Lyon (1797-1849) was another pioneer leader in the movement for the higher education of women. She was the founder and first president of Mount Holyoke College (1836). When it was unfashionable for women to know more than how to read and write, Mary Lyon had the courage to ask that women have an education equal to men, a thing which was laughed at as impracticable and impossible. Her object was to establish a school for young women which should be in every respect on a par with the best colleges for men.

Mary Lyon did not create the demand for higher education of women, nor was she the first to voice it. However, the establishing of Mount Holyoke marked the initial appearance of higher education for women in America. Vassar, Smith, and Wellesley, which came later, owe much to Mount Holyoke. They are indebted to the work which Mary Lyon accomplished in educating so many self-sacrificing teachers, and in giving concrete expression to the truth that intelligence is as valuable in a woman's mind as in a man's, and is capable of the same high development.

Questions and Problems

1. Why was education for many centuries under the control of the church?
2. Why did the state assume control of education?
3. Show how the applied phases of physics, chemistry, biology, and physiology are receiving more attention in the schools than formerly. How do you account for this?
4. What forces have brought new subjects in the elementary school curriculum? Give examples.
5. What forces have brought about the changes in the method of presenting subject-matter? Give examples.
6. What is meant by the "evolution of education"?

7. Make a list of five outstanding women in American education of today and state the contribution of each.

8. Make a list of five outstanding men in American education of today in addition to the men whose pictures appear in this book. State the contribution of each.

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CHAPTER XIV

THE LABORATORY OF DEMOCRACY

The Growth of Democracy

Taken in its widest meaning as the development of the physical, mental, and moral welfare of all of the people, democracy may be called the goal of civilization. All sociologists emphasize the democratic trend of society from its beginning. This trend appears in every field of human endeavor—political, economic, social, moral, and educational.

Democracy in the political world. The development of democracy is most readily seen in the political world. Among primitive men rulership belonged largely to the physically strong. Early government was dictatorial. The oriental monarchies were despotic and autocratic.

At the beginning of the nineteenth century political power in the leading nations of Europe was still in the hands of the few. Even in the United States large groups of men of full age were denied the right to vote. It took two successive waves of political agitation to remove the property tax and religious qualifications for the suffrage, and this was not done until the middle of the century. A great war was then necessary to secure the nominal franchise of the negroes. [And women have just recently been given suffrage.] It required three similar waves of reform to approach manhood suffrage in England, which was accomplished by the Gladstone Liberals only a generation ago. Like struggles were necessary in France to gain a voice in the government, first for the bourgeoisie, and later for the common people.

And in all of these countries the attainment of the suffrage is only the first step to real democracy.[1]

Real democracy cannot be complete until the voters of all classes are trained to be intelligent and independent in assuming their political responsibilities.

Another way to see the growth of political democracy is to analyze the field and aim of government. Primitive government existed only for the protection of its subjects. When this function became fairly well established, that of protecting property was undertaken. As political control improved along these lines, regulations were made to develop the individual and to stimulate economic endeavor. Government then gradually assumed authority over the dependent, the defective, the delinquent classes, over education, and over many other phases of personal welfare. It likewise extended its economic sphere by attempting to regulate commerce and industry. The postal service was taken over, banking and transportation were also regulated, and today there is scarcely a phase of our modern business life where indirect governmental regulation or direct government control is not evident. Democracy means not only the rule by many, but the rule over many things, and along both these lines we may count on continued progress.

Economic democracy. Economic evolution shows just as striking a democratic advance as political evolution. When the first savage fashioned the first crude weapon or tool, the first bit of capital was created. It was a monopoly. From that day to the present the store of the world's wealth has been increasing. The day of want is pushed farther in advance. "While the savage continually faced starvation it has been calculated that the reserve store of the world's goods is now large enough, if it could be capitalized into the sort of commodities needed, to run the world more than five years."[1] While it is still very unevenly distributed, every individual is nevertheless able to live better by virtue of its existence. The day laborer of today is able to live better and to get a greater amount and variety of both the necessities and luxuries than the medieval lord in days of old. The trend toward economic democracy appears in every phase of our modern industrial world. Democratic progress is clearly shown in the changing of the basis of taxation, through property, income, and inheritance taxes, so that ability to pay will be the test and wealth will bear a greater proportion of the increasing burden of state enterprises.

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[1] Smith, W. R., *An Introduction to Educational Sociology*, page 167. Riverside Texts in Education. Houghton Mifflin Company. Used by permission.

Social democracy. The growth of social democracy is evident on every hand. Medieval and early modern European society consisted of a regular hierarchy, with almost impassable barriers separating class from class. So closely were the privileges of birth held that it took centuries of struggle to break their defenses and destroy their power. In England the dominance of the royal family was first overthrown, and then the supremacy of the privileged lords was undermined. Titles still exist, but they are comparatively empty honors, carrying but little power and few privileges.

As Smith says:

> This revolt against birth is especially conspicuous in new countries and within frontier society. Nevertheless, it had to be fought out in the United States as elsewhere. John Adams wrote a book in which he urged that the government should re-

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[1] Smith, *Opus cit.*, Chap IX.

> main in the hands of the rich, the able, and the well born. . . . Andrew Jackson rode into the Presidency on a popular democratic upheaval that was as much a revolt against the rule of birth and aristocratic culture as it was political.[1]

A stratified society is natural and will continue to exist, but there is an unchangeable tendency to substitute real worth and achievement for artificial selection in determining class standing. Social democracy is following close on the heels of political and economic democracy.

Various other struggles toward democracy might be traced along cultural, religious, legal, and institutional lines. In every phase of life, exclusiveness, privilege, and artificial distinctions are rapidly disappearing.

THE SCHOOL—THE LABORATORY OF DEMOCRACY

The relation between education and democracy. The relation of education to this democratic trend is direct and fundamental. Education and democracy are bound up in an unending chain of cause and effect. More democracy means more general education, and more general education means more universal democracy. A real democracy cannot exist without universal education, and universal education cannot be obtained except in a democracy. Democratic education must be of the people, by the people, and for the people.

The American public school, the laboratory of democracy, is a social institution established and controlled by society for the purpose of maintaining its own stability and determining the direction of its own progress. These aims can be realized only by making education an agency both for preserving the achievements of the past and for promoting social progress and reform. When other social institutions fail to provide desirable forms of training for the social demand, such training must be taken over by the school. Within recent years important changes have taken place in the home, in the state, in the church, and in the vocations which have imposed on the school many functions once exercised by one or more of these institutions.

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[1] *Opus cit.*, page 165.

The home and the school. Within the past three or four generations the development of the home as an informal institution of education has been marked by important changes which have tended to lessen the influence of the home as an educational agency. The majority of these changes center around the lessening of the home or family solidarity. This is manifest in the lessened amount of responsibility for the children on the part of the parents; in the withdrawal of the father and sometimes the mother from home occupations to occupations in factories and stores. Obviously, the burden thrown on the school by the decreased influence of the home in these respects affects all divisions of education. It is in part the basis of the present demand for increased attention to the moral and social education of boys and girls, a demand which cannot be neglected in the laboratory of democracy without distinct loss to our efficiency as a nation. Not only is it true that changes in the home itself have imposed responsibilities on the school, but it is also true that the relation between the two institutions has changed to such an extent that the school must assume certain responsibilities before appropriate to the home.

Industry and the school. Important changes in the vocations and in industry have likewise added further responsibilities to the school. The disappearance of the apprentice system, the development of the modern factory system—these and many other factors have greatly diminished the amount of vocational education and training formerly provided by the vocation itself. As is the case with the changes in the home, these changes in the vocations have imposed responsibilities on the school, and the two institutions have altered to such an extent that the school must assume certain responsibilities and duties before appropriate to the vocation. The changes in the vocation and industry show clearly the urgent need for recognizing the importance of vocational education, guidance, and direction in the public schools.

The needs of society determine the aims of education. To state that the American public schools, the laboratory of democracy, should conform to the democratic ideals and the democratic organization of American society is to state a platitude. The implications of such a statement, however, are not always clearly perceived. Efficient membership in American society, according to Inglis, demands at least three qualifications:

> (1) An ability effectively to execute the formal and informal duties of citizenship and carry the burden of political responsibility; (2) an ability to produce and labor sufficiently to carry one's own economic load; (3) an ability to utilize one's leisure time and act in an individual capacity without interfering with the interest of others.[1]

In our American democracy these three forms of activity must be considered as important for every citizen in so far as his individual capacity and circumstances permit. Not only should educational opportunity be universal in America, but these three phases of activity must be necessary parts of the education due every normal individual.

Fundamental aims of the public schools. Thus we see that the American public school systems, the laboratory of democracy, have three fundamental aims or purposes: First, the preparation of the individual as a prospective citizen and coöperating member of society; second, the preparation of the individual as a prospective worker and producer; third, the preparation of the individual for the proper use of his leisure time and the development of his personality. Every individual is at the same time a citizen, a worker, and a relatively independent personality. These three phases cannot be divorced, and in the laboratory of democracy preparation for no one of these phases of life should be neglected.

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[1] *Principles of Secondary Education*, page 342. Riverside Texts in Education. Houghton Mifflin Company. Used by permission.

Thus the first mentioned aim of education involves the preparation of individuals for efficient participation in desirable forms of social coöperation. Hence, the laboratory of democracy must develop knowledge, habits, abilities, and ideals which will enable the individual to play his part as a social unit in group activities. This involves the development of ideals and habits of coöperation; the development of a knowledge of the important social institutions and their place in the social order; the development of a knowledge of the civic activities involved in community life; the development of a keen sense of social responsibility.

A second major aim of education involves the preparation of the individual for efficient participation in those activities of society involving economic efficiency. Society makes its demand on every individual to engage in economic activity, at least to the extent of pulling his own load. This makes it necessary that the laboratory of democracy develop knowledge, skill, and habits involved in prevocational and vocational activities; that it develop the ideals, standards, and conditions of the economic world; that it see to the discovery and development of special interests and abilities of different individuals for vocational pursuits, and to the development of an understanding of the significance of various occupations to society.

A third major aim of education involves the preparation of the individual for the worthy use of leisure and the development of his personality. Preparation for the leisure part of life is just as essential as the preparation for the toiling part of life. Within recent years there has been a constant tendency toward increased amount of leisure time, and this has introduced problems of vital importance for the laboratory of democracy. There must be developed a sense of social responsibility; a respect for the rights and interests of others; and tastes and standards for the enjoyment and use of leisure.

The changing needs of society. It is an obvious fact that as time passes society changes, and the demands of the social organization are more or less modified. Therefore, the aims of education must constantly be revamped and adapted to meet these changing needs of society and to enable the individual to grow and to widen his intellectual horizon. At the present time in America the rate of change in all phases of our social organization is rapid, and is likely to be rapid for some time to come. The present conditions will in all probability change in important ways within the life of the generation which is at present being prepared in the laboratory of democracy for adult membership in society.

The activities of our present society call for knowledge and skill that could not have been foreseen by those responsible for education twenty years ago. In the field of civic and political affairs are such factors as woman suffrage, the initiative and referendum, commission government, the short ballot, direct primaries, coöperative marketing, the league of nations, and a host of other civic, social, and political problems. Specific preparation for these activities could not have been offered in our schools for those who are now called upon to meet them. In the field of industry new activities have developed within recent years which the school could not have provided for. New opportunities for the individual's enjoyment of leisure time have opened up within recent years, for which the school of a few years ago could not have established standards of conduct except in the most general way.

We may be just as sure that equally important changes will face the pupils now in our laboratory of democracy, which we cannot foresee and for which, therefore, we cannot provide specific preparation. The rapid change in certain phases of social activities means that mere adjustment of the pupils in our laboratory of democracy to existing conditions in society is inadequate; that to this there must be added the development of the capacity to readjust to the changing conditions which we may be sure will face the pupils after leaving the schoolroom. The new conditions we cannot clearly foresee, but we know they will in some respects differ from existing conditions. The real mark of intelligent behavior is this ability to respond to changing conditions in our environment.

Two important social forces which the school must recognize. The continuity and progress of society depend upon a proper balance between two sets of forces which determine the social organization. One set of forces binds the various parts of society together and unifies it—

the integrating force. The other set tends to separate the various parts of society and disrupt it—the differentiating force. In any society there is need of a certain amount of like-mindedness, unity of thought, feelings, ideals, and standards of conduct. Such unity is more necessary in a democracy such as ours than in any other society. But it is also true that individual differences and differentiated needs of society demand recognition. The laboratory of democracy must make provision for the development of that amount of like-mindedness and unity in thought, habits, and ideals, which is necessary for social solidarity; likewise, it must make provision for individual differences. Individuals differ in native capacities, acquired tendencies, aptitudes, and interests. Failure to recognize this fundamental fact at any time must inevitably mean failure to do justice to the individual and to society.

Privileges and responsibilities of individual members of society. It must further be recognized that in our American democracy each individual must be not merely a law-abiding citizen, but also to some extent a law-making citizen. Furthermore, the minimum level of general intelligence necessary in any society must depend on the amount of privilege and responsibility resting on the individual. It must also be recognized that with the growing complexity of our modern social and economic life the amount of intelligence and training necessary to meet its privileges and responsibilities is much greater than at any former time. A larger proportion of the prospective members of American society should receive the benefits of education beyond the elementary school. The increased privileges and responsibilities granted to and demanded of the individual in American society cannot be provided for by a system which gives a majority of the citizens merely an elementary education.

Education and social progress. It has usually been assumed that the American people are devoted to education as an ideal. Our social and economic ignorance, high percentage of illiteracy, and poorly paid teachers indicate the contrary. We need to realize that education is the only rational means of social progress. We need to see the vital relation between democracy and education, that both must rise or sink together. Our schools have resting upon them the burden of shaping democracy and molding the course of government. The mass of mankind, in spite of the efforts of the schools, is at least a generation behind in its conceptions of government and in its social thinking; and it probably will ever be so.

Our colleges, for example, are usually teaching ideas a generation ahead of current practices. The really thinking people in any nation are in an almost hopeless minority. Government in a democracy is the government of the average mass, and the task of the school is to help leaven the mass and make government more intelligent in the next generation than in the present. The problems of democracy are the opportunities of the public school, and the school will be called upon to render larger and more important service as democracy spreads and its problems increase in complexity. Upon the public school teachers of America rests the establishment among the people of the ideals and attitudes which are to shape the course of our American democracy during the years that are to come.

Education will not automatically promote the ends of democracy. It is worth while to remind ourselves that, as Bode says:

> There is no inherent magic in education by which it automatically promotes the ends of democracy. Education is a tool that can be made, and has been made, to serve many masters. It can deepen lines of cleavage and can consolidate one class as against other classes or one interest as against other interests. Education was never more widespread or more effectively conducted than in recent times, yet it did not prevent the World War; it made this war more terrible than any that preceded it. There is no good reason to think that more education will, in itself, safeguard democracy or safeguard us from other catastrophic wars. To bring about this result we must have a different quality of education, which means education conducted in a different spirit and with different standards of value. . . . What counts, in short, is not only the materials that are taught, but the spirit in which they are taught, the spirit that is made to pervade our educational system. A system is not democratic simply because it is made available to everybody or because it is administered without distinction of persons. In a Spartan scheme of education all are included and all are treated equally, but it is not democratic because the individual is subordinated, is made a means to an end; and that end, the State. To be truly democratic, education must treat the individual himself as the end and set itself the task of preparing him for that intellectual and emotional sharing in the life and affairs of men which embodies the spirit of the Golden Rule.[1]

Questions and Problems

1. In what sense is democracy an attitude of mind and not a mere form of government?
2. Make a list of three or four civic and political duties and responsibilities which are required at the present time but were not required twenty-five years ago.
3. Make a list of five civic and political duties and responsibilities which are not required now, but perhaps will be required twenty-five years from now.

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[1] *Fundamentals of Education*, pages 59-60. Reprinted by permission of The Macmillan Company, publishers.

4. What problems do Questions 2 and 3 present for the public schools, the laboratory of democracy?

5. Illustrate the statement that "More democracy means more general education, and more general education means more democracy."

6. How can the public schools of today prepare for the future when we cannot tell what the future will be?

7. What is meant by the expression, "Minimum level of general intelligence necessary in any society"?

8. Illustrate the statement that "Education is a tool that can be made, and has been made, to serve many masters."

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